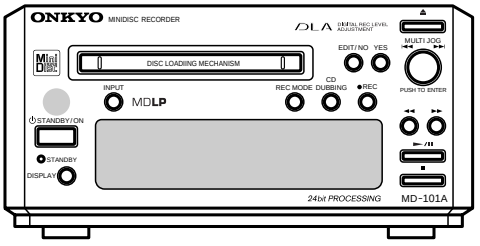
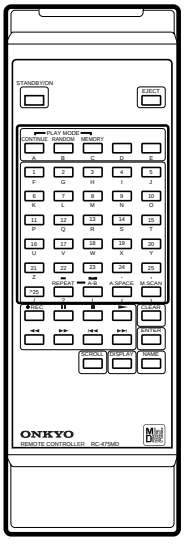
Ref. No. 3703
112001

ONKYO SERVICE MANUAL

MINIDISC RECORDER
MODEL MD-101A





RC-475MD

Silver models

MDT	120V AC, 60Hz
MGT, MGR	220-230V AC, 50/60Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

ONKYO®
IMAGINATIVE SIGHT & SOUND

SPECIFICATIONS

System

MiniDisc digital audio system

Recording system

Magnetic field modulation overwrite system

Signal read out system

Optical non-contact

Recording time

Stereo: Max. 80 min.

(when using MDW-80)

Mono : Max. 160 min.

(when using MDW-80)

Number of revolutions

About 400 - 900 rpm (constant linear velocity)

Error correction system

Advanced Cross Interleave Reed-solomon code

Sampling frequency

44.1 kHz

Number of channels

2 (stereo)

Frequency response

10 Hz - 20 kHz (±0.5 dB)

Signal to noise ratio

100 dB or more when playing

Output level

2.0 volts r.m.s.

Power supply rating

AC 230-240 V, 50/60 Hz

AC 120 V, 60 Hz

Power consumption

13 watts (AC 230-240 V, 50/60 Hz)

15 watts (AC 120 V, 60 Hz)

Dimensions (W × H × D)

155 × 76 × 288.5 mm

Weight

2.3 kg

Specifications and features are subject to change without notice.

DISPLAY MESSAGES

Message	Meaning
Auto Space	This message appears during the track intervals when A. Space is turned on.
Blank Disc	A new recordable MD or a recordable MD without disc or track names is inserted.
Cannot Copy	An attempt was made to record copyright-protected material. An attempt was made to make a second copy from a digitally dubbed MD
Cannot Edit	An attempt was made to edit the disc during MEMORY or RANDOM play or in recording standby mode, or an attempt to edit a premastered disc was made.
Cannot Rec	An attempt was made to record onto a premastered (read-only) disc.
CD Dub Fail	The CD dubbing operation could not be enabled. Check the connections. (An **RI** cable or audio pin cable is not connected. "Digital In 1" is not selected as an input source, or the amplifier or CD player is not turned on.)
Complete	Editing is complete.
D. In Unlock	The digital equipment (CD player, DAT, etc.) has not been connected properly. Otherwise, the connected digital equipment is not operating properly.
Disc Error	The disc is abnormal (scratched or missing a TOC).
Disc Full	The disc is full.
Full	An attempt was made to enter a character that exceeds the maximum character capacity.
Impossible	The disc could not be edited.
Mecha Error	An error occurred in the unit fs internal mechanism.
Memory Full	An attempt was made to record a 26th track.
Music Scan	Music Scan has started.
Name Full	Number of characters has reached the limit for input to one MD.
No Change	The naming attempt failed.
No Disc	There is no disc in the unit.
No Track	The inserted disc has a disc title but no tracks.
Over	In pause mode (when playing is paused), the >>(Fast Forward) button was pressed to the end of the disc.
Protected	The inserted disc is record-protected.
Retry Error	The recording attempt failed due to a consecutive disturbance or scratches on the MD.
Signal Wait	The unit has entered Signal Wait mode.
Synchro Rec	Synchro recording has started.
TOC Reading	The unit is reading the TOC from the MD.
TOC Writing	The unit is writing the recorded or edited contents to the MD.
TOC Error	The writing of the recorded or edited contents failed. Something is wrong with the TOC.

SERVICE PROCEDURES

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs a laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!

SERVICE WARNING : DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION, BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICKUP BLOCK.

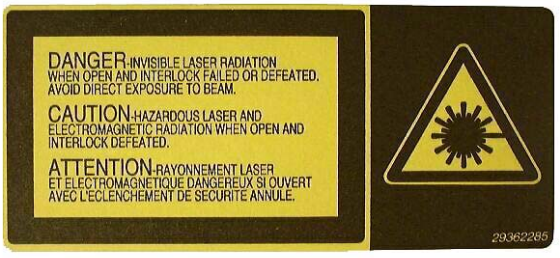
Laser Diode Properties

Material:	GaAS/GaAlAs
Wavelength:	780 nm
Emission Duration:	Continuous
Laser output:	MAX. 7 mW

LASER WARNING LABEL

The labels shown below are affixed.

1. Warning label


DANGER-INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCK FAILED OR DEFEATED. AVOID DIRECT EXPOSURE TO BEAM.
CAUTION-HAZARDOUS LASER AND ELECTROMAGNETIC RADIATION WHEN OPEN AND INTERLOCK DEFEATED.
ATTENTION-RAYONNEMENT LASER ET ELECTROMAGNETIQUE DANGEREUX SI OUVERT AVEC L'ECLENCHEMENT DE SECURITE ANNULE.
29362285

2. Class 1 label

LUOKAN 1
LASERLAITE

KLASS 1
LASER APPARAT

DANGER:
INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCK FAILED OR DEFEATED. AVOID DIRECT EXPOSURE TO BEAM.

CAUTION:
HAZARDOUS LASER AND ELECTROMAGNETIC RADIATION WHEN OPEN AND INTERLOCK DEFEATED.

ATTENTION:
RAYONNEMENT LASER ET ELECTROMAGNETIQUE DANGEREUX SI OUVERT AVEC L'ECLENCHEMENT DE SECURITE ANNULE.

SERVICE PROCEDURE

1. Replacing the fuses

REF. NO.	PART NO.		DESCRIPTION
F901	252074	⚠	2A-SE-EAK, Fuse <GT, GR>

[NOTE]
<GT> : Asian model
<GR> : Chinese model

2. To initialize the unit

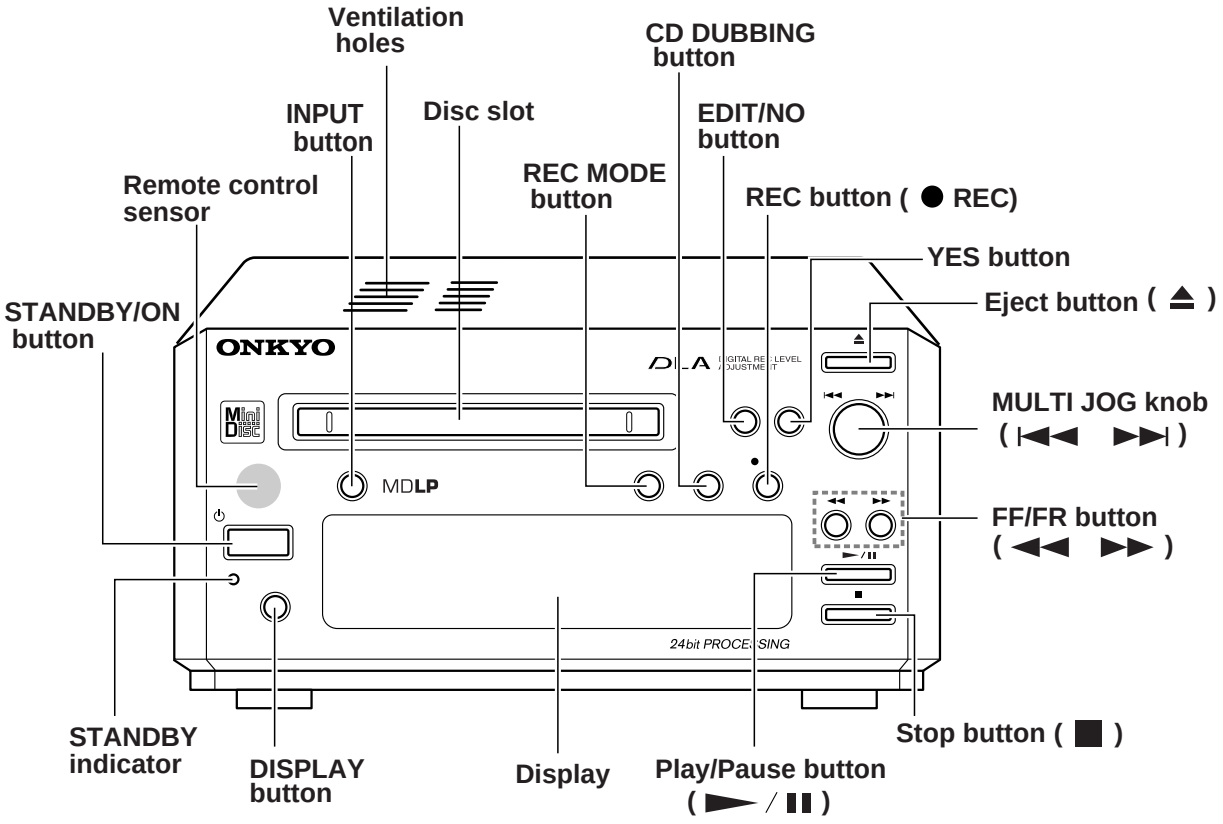
(1) Connect the power supply cord in the wall socket.
(2) Press the **STANDBY/ON** button to turn the power source on.
(2) While hold down the **YES** button, press the **DISPLAY** button.
(4) Press the **STANDBY/ON** button.
(5) Disconnect the power supply cord.

3. How to reset the unit compulsorily

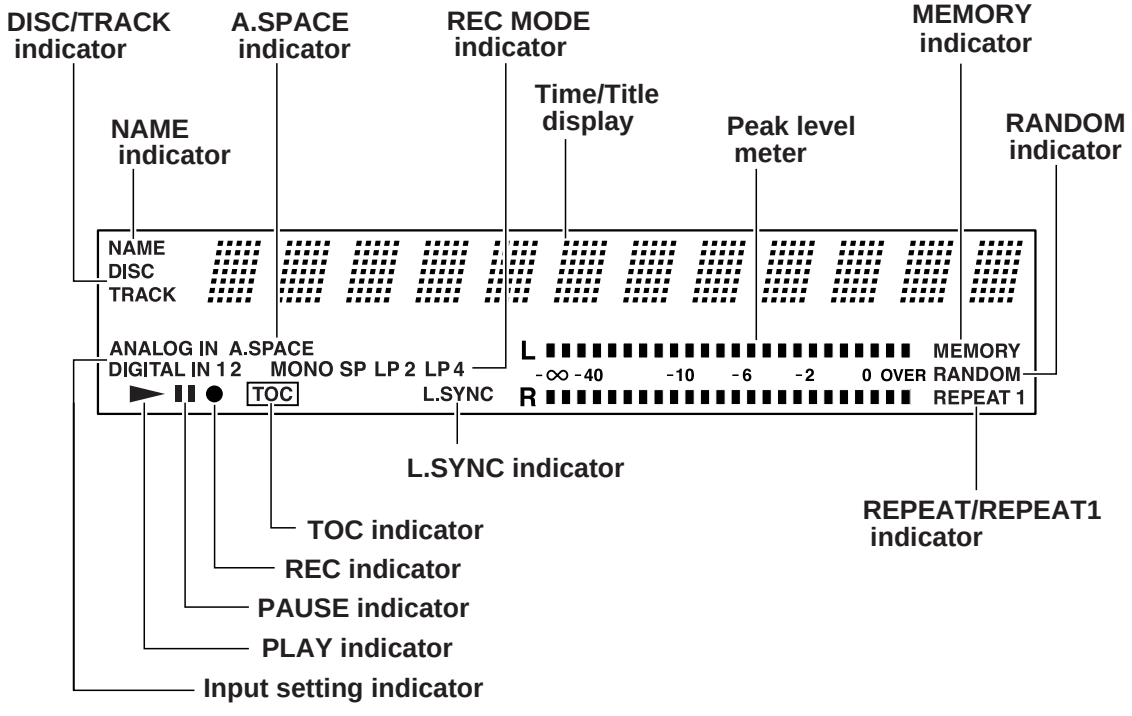
Used when it becomes impossible to eject a disk.
Continues pressing the **STOP** button more than for 5 seconds.

PANEL VIEWS-1

FRONT PANEL



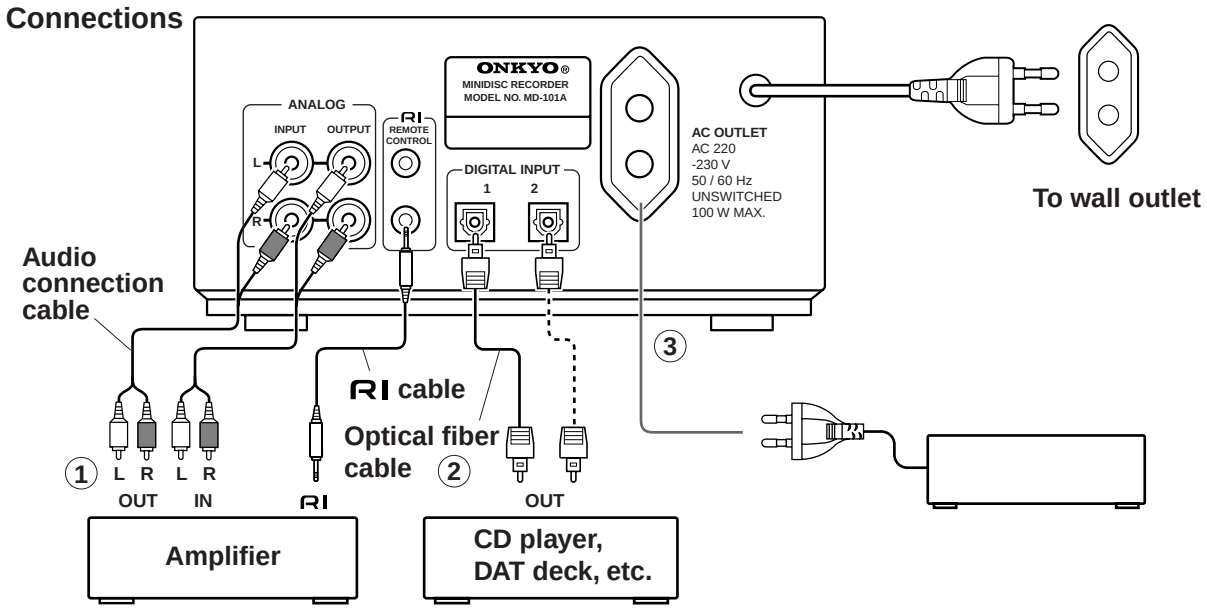
DISPLAY



PANEL VIEWS-2

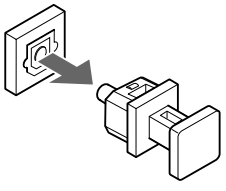
CONNECTING TO THE OTHER COMPONENTS

- This unit uses heat-sensitive parts. Do not place this unit on the Amplifier or Receiver.



① Connecting to the Amplifier
Connect the MD-101A to the MD (or TAPE) jacks of your amplifier.

② Connecting to the Digital Input Terminals (DIGITAL INPUT 1, 2)
You can perform digital recording on the MD-101A if a CD (Compact Disc) player or DAT (Digital Audio Tape) deck equipped with a digital (OPTICAL) output terminal is available. For digital recording, you need to connect the equipment to either DIGITAL INPUT 1 or 2 terminal using the supplied optical cable. These terminals can also be used for connecting an amplifier that is equipped with a digital output terminal.

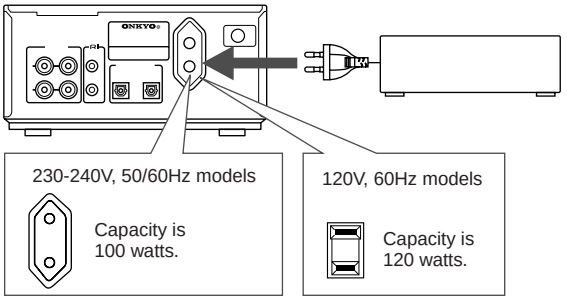


Note

- If you use DIGITAL INPUT 2 to connect an amplifier, you will be unable to utilize the full capabilities of the MD-101A.
- If you attempt to perform digital recording using a digital input terminal that is not connected, "D.In Unlock " will appear.
- Terminal protection caps are attached to the DIGITAL INPUT terminals. Remove the cap for the terminal you wish to use when connecting the MD-101A to digital equipment. Replace the caps if you are not using the DIGITAL INPUT terminals.

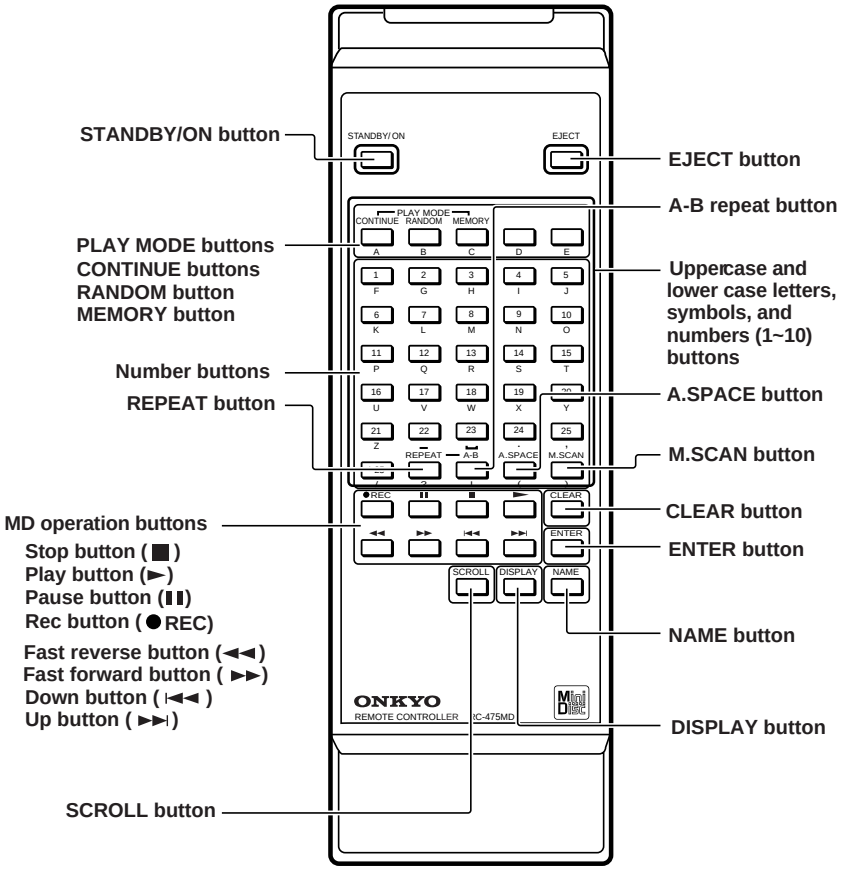
3 Connection to AC outlet (UNSWITCHED)
The power cord of another unit can be connected to this outlet.

Note
The shape, number, and total capacity of the AC outlets may differ depending on the area in which the unit is purchased.
230-240 V, 50/60 Hz model: Capacity is 100 W in total.
120 V, 60 Hz model: Capacity is 120 W in total.

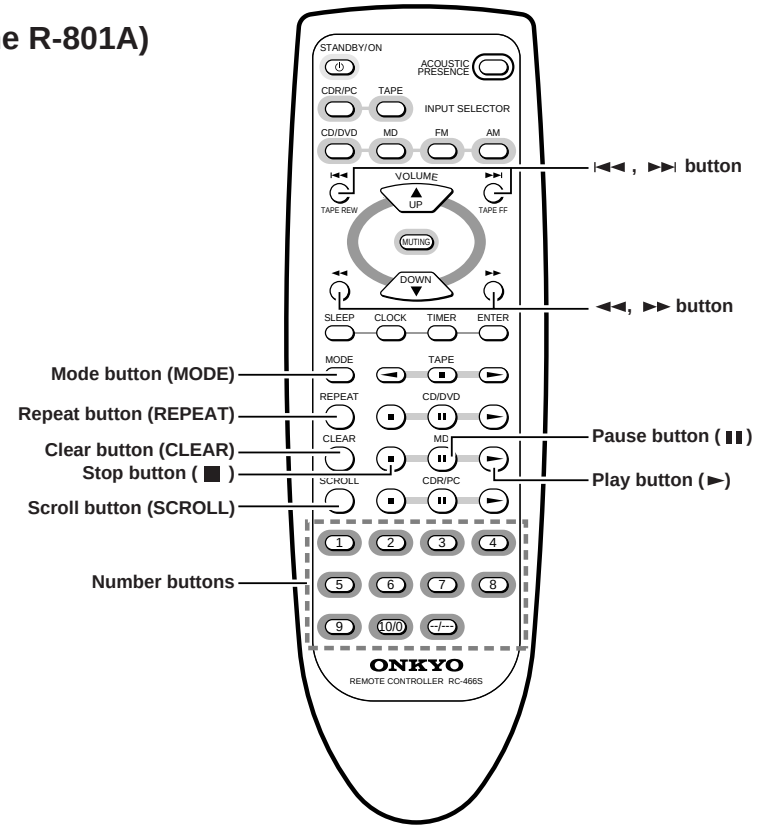


REMOTE CONTROLLER

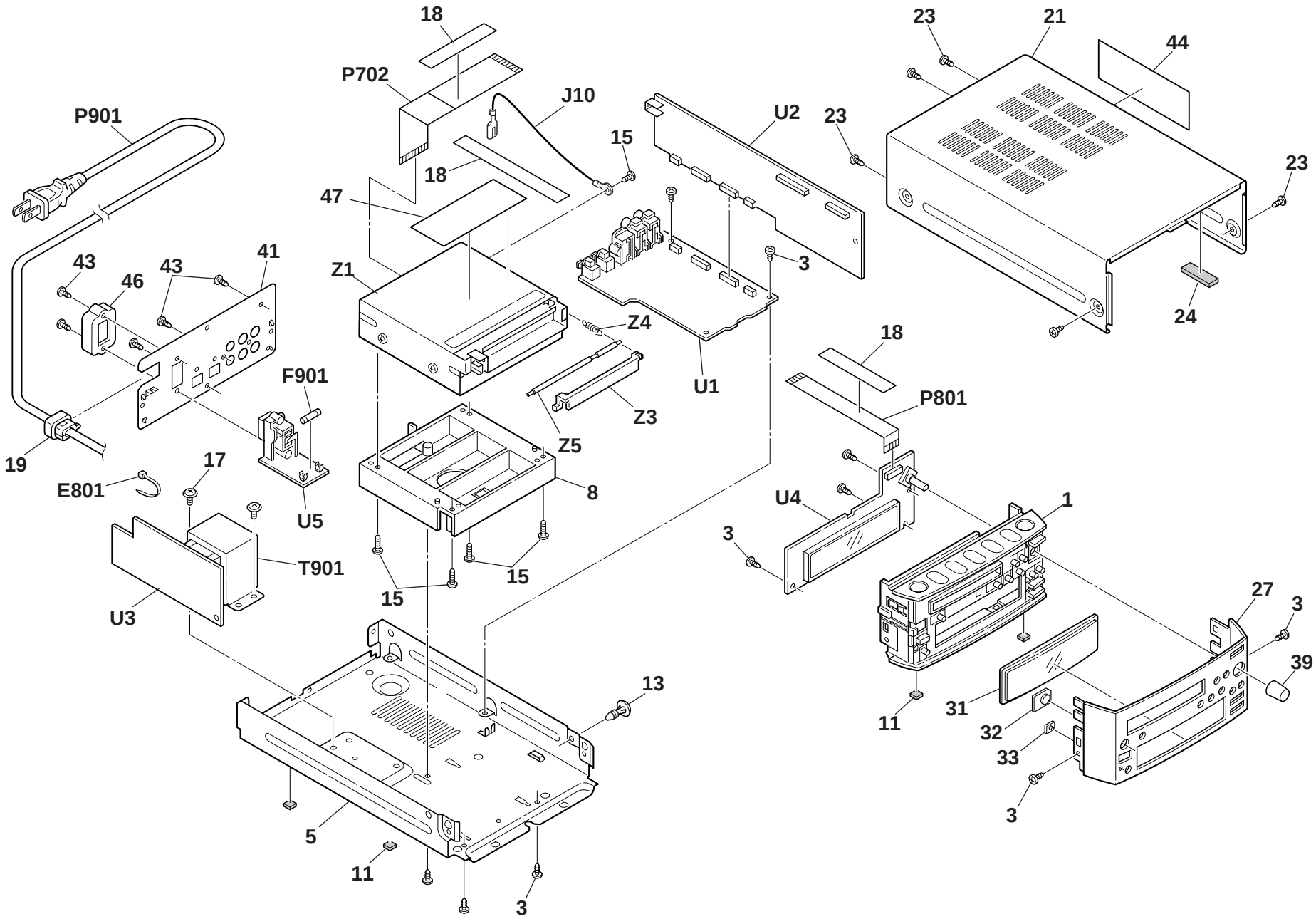
RC-475MD (supplied)



RC-466S
(supplied with the R-801A)



EXPLODED VIEW



MD-101A

EXPLODED VIEW PARTS LIST

REF NO.	PART NO.		DESCRIPTION
1	27111252		Front bracket
3	838130088		3TTB+8B, Self tapping screw
5	27100411		Chassis
8	27191159		Holder, M
11	28141489		Cushion, Reg
13	27190503A		KGLS-8RF, Holder
15	838430107		3TTB+10S(BC), Self tapping screw
17	830440069		4TTC+6C(BC), Self tapping screw
18	29110083		TAPE(CROSS-16U)
19	27300750	⚠	Bushing, #2271
21	28184826		Top cover
23	838930088		3TTB+8B(UN), Self tapping screw
24	28141472A		Cushion
27	27212354		Front panel
31	28191944A		Clear plate
32	28191945		Clear plate, RE
33	28198939		Facet, S
39	28325966		Knob, JOG
∗41	27122915		Rear panel <DT> MANUFACTURED IN MALAYSIA
	27122915-1		Rear panel <DT> MADE IN JAPAN
∗41	27122916		Rear panel <GT> MANUFACTURED IN MALAYSIA
	27122916-1		Rear panel <GT> MADE IN JAPAN
∗41	27122917		Rear panel <GR> MANUFACTURED IN MALAYSIA
	27122917-1		Rear panel <GR> MADE IN JAPAN
43	838430088		3TTB+8B(BC), Self tapping screw
∗44	29362968	⚠	Label, CLASS1 SPEC, <GR> MANUFACTURED IN MALAYSIA
	29362968-1	⚠	Label, CLASS1 SPEC, <GR> MADE IN JAPAN
44	29360687	⚠	Label, CLASS-1 <GT>
46	27191143		Holder <GR>
47	29362285	⚠	Label, caution

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

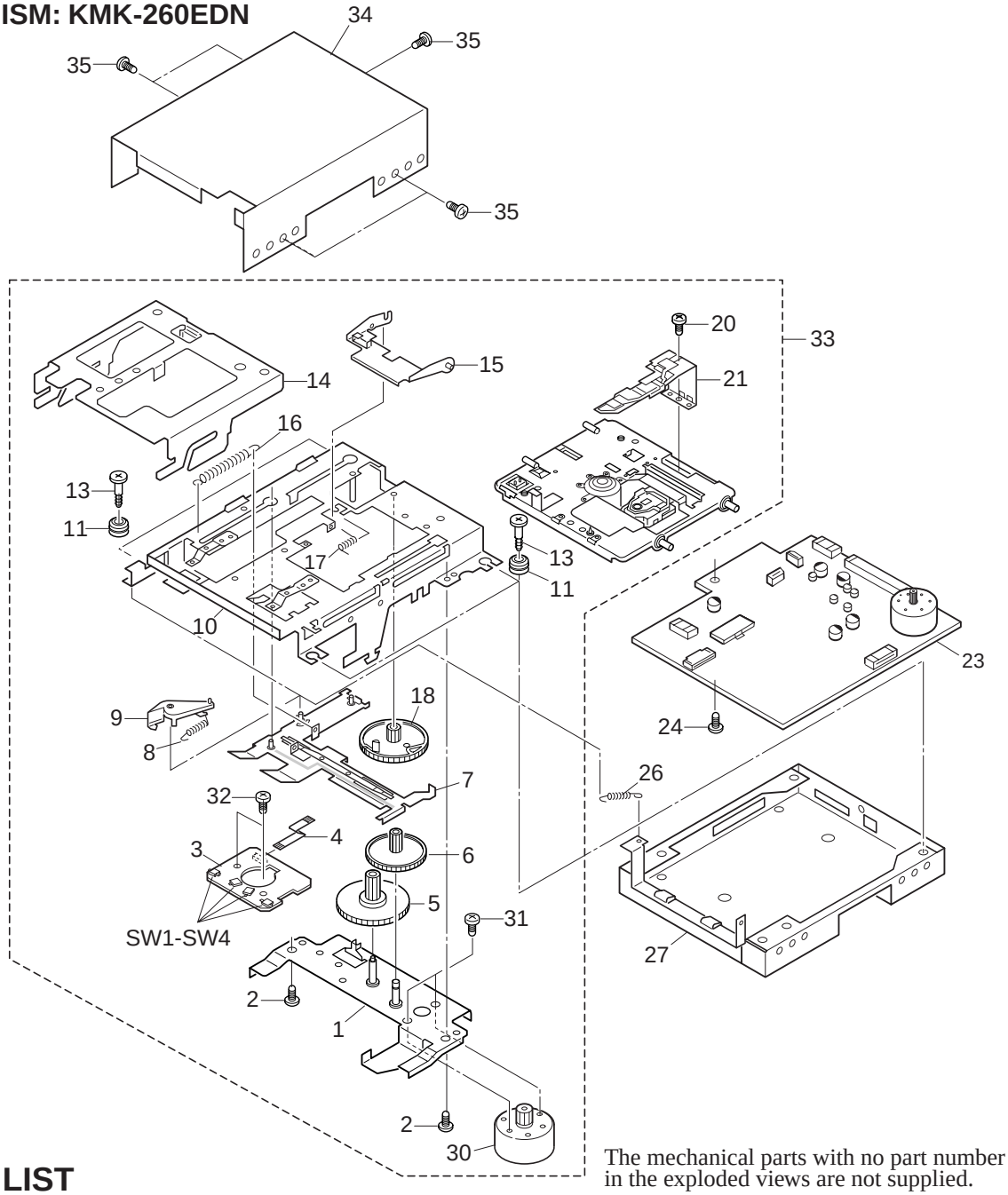
REF NO.	PART NO.		DESCRIPTION
E801	260208		Binder, UL
P901	253336VOL or	⚠	AS-CEE or
	253335HIT	⚠	AS-CEE, Power supply cord <GT>
P901	253337HITor	⚠	AS-CCEE or
	253338VOL	⚠	AS-CCEE, Power supply cord <GR>
P901	253333VOL or	⚠	AS-UC-2 or
	253332HIT	⚠	AS-UC-2, Power supply cord <DT>
T901	2301545	⚠	NPT-1424D, Power transformer <DT>
	2301554	⚠	NPT-1424G, Power transformer <GT,GR>
J10	1F999013UL		Faston AS
P702	2045291512		NCFC5-291512, Flexible flat cable
P801	204417023		NCFC4-17023, Flexible flat cable
F901	252074	⚠	2A-SE-EAK , Fuse <GT,GR>
U1	1H478598-1B		NAAR-7298-1B, Main circuit PC board ass'y <DT>
	1H478598-1C		NAAR-7298-1C, Main circuit PC board ass'y <GT>
	1H478598-1D		NAAR-7298-1D, Main circuit PC board ass'y <GR>
U2	1H478599-1B		NADG-7299-1B, Microprocessor PC board ass'y <DT>
	1H478599-1C		NADG-7299-1C, Microprocessor PC board ass'y <GT>
	1H478599-1D		NADG-7299-1D, Microprocessor PC board ass'y <GR>
U3	1H478500-1B		NAPS-7300-1B, Power supply PC board ass'y <DT>
	1H478500-1C		NAPS-7300-1C, Power supply PC board ass'y <GT>
	1H478500-1D		NAPS-7300-1D, Power supply PC board ass'y <GR>
U4	1H478501-1B		NADIS-7301-1B, Display PC board ass'y <DT>
	1H478501-1C		NADIS-7301-1C, Display PC board ass'y <GT>
	1H478501-1D		NADIS-7301-1D, Display PC board ass'y <GR>
U5	1H478502-1B		NAETC-7302-1B, AC outlet PC board ass'y <DT>
	1H478502-1C		NAETC-7302-1C, AC outlet PC board ass'y <GT>
	1H478502-1D		NAETC-7302-1D, AC outlet PC board ass'y <GR>
Z1	24650035		KMK-260EDN, MD Mechanism
Z3	24611665		Door
Z4	24605828		Spring
Z5	24604139A		Shaft

[Notes]
This model may be produced in the case where it is manufactured in Malaysia, and Japan.
About the parts which have the ∗ mark on REF NO., part numbers differ by the case of the Malaysia production, and the case of production of Japan.
When you exchange this part, check the manufacture place of the origin on the rear panel, and use the same parts.

NOTE:
<DT> : Taiwanese model only
<GT> : Asian model only
<GR> : Chinese model only

EXPLODED VIEWS OF MECHANISM-1

MD MECHANISM: KMK-260EDN



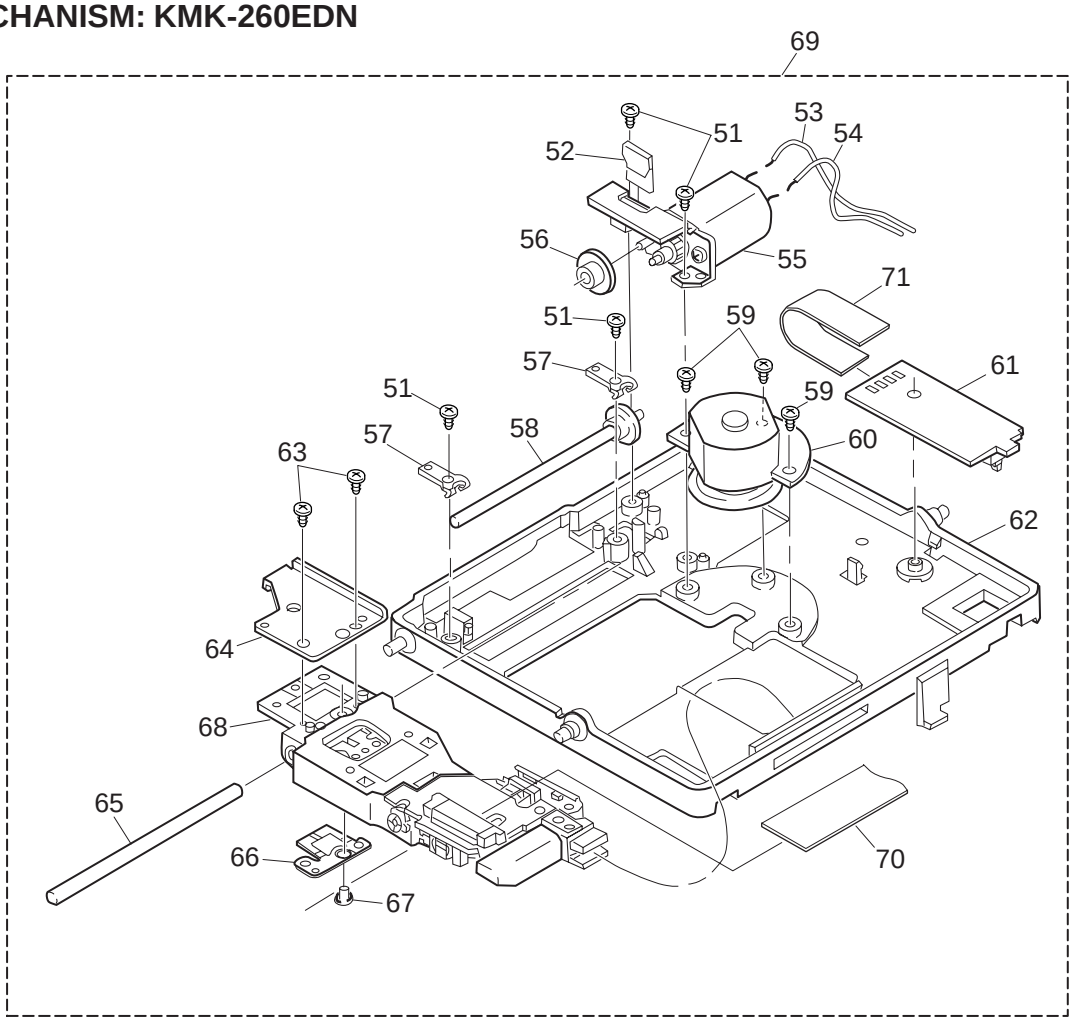
The mechanical parts with no part number in the exploded views are not supplied.

PARTS LIST

REF NO.	PART NO.	DESCRIPTION
1	---	Motor Plate ass'y
2	7685-791-01	Screw +PTT2.6 x 5(S)
3	---	L-SW PC board
4	1792-100-21	Flexible flat cable(5 core)
5	2646-555-02	Gear(Relay B)
6	2646-554-01	Gear(Relay A)
7	X2646-726-1	Frame ass'y, slot
8	2646-563-01	Spring(Slot arm), Tension coil
9	2646-556-01	Slot Arm
10	---	Load Frame ass'y
11	2646-548-01	Insulator
13	2647-337-01	Screw, Step
14	---	Slide Frame
15	2646-559-02	Arm, head
16	2646-561-01	Spring, SP Tension
17	2646-562-01	Spring, Tension coil
18	2646-560-02	Cam, mode
20	2627-529-01	Screw(+P1.7 x 2.5 Type2)
21	8620-021-71	MD Over write head
23	---	MD mount
24	7685-791-09	Screw(+PTT2.6 x 5 Type S)
26	2646-545-01	Spring(Door arm), Tension coil
27	---	Case(Lower)
30	X2626-328-1	Loading motor ass'y
31	7627-852-38	precision screw(+P1.7 x 1.8 Type 3)
32	7685-780-09	Screw +PTT2×3(S)
33	---	Loading ass'y
34	---	Case(Upper)
35	7621-259-25	Screw (+P2.6×4)

EXPLODED VIEW OF MECHANISM-2

MD MECHANISM: KMK-260EDN



PARTS LIST

The mechanical parts with no part number in the exploded views are not supplied.

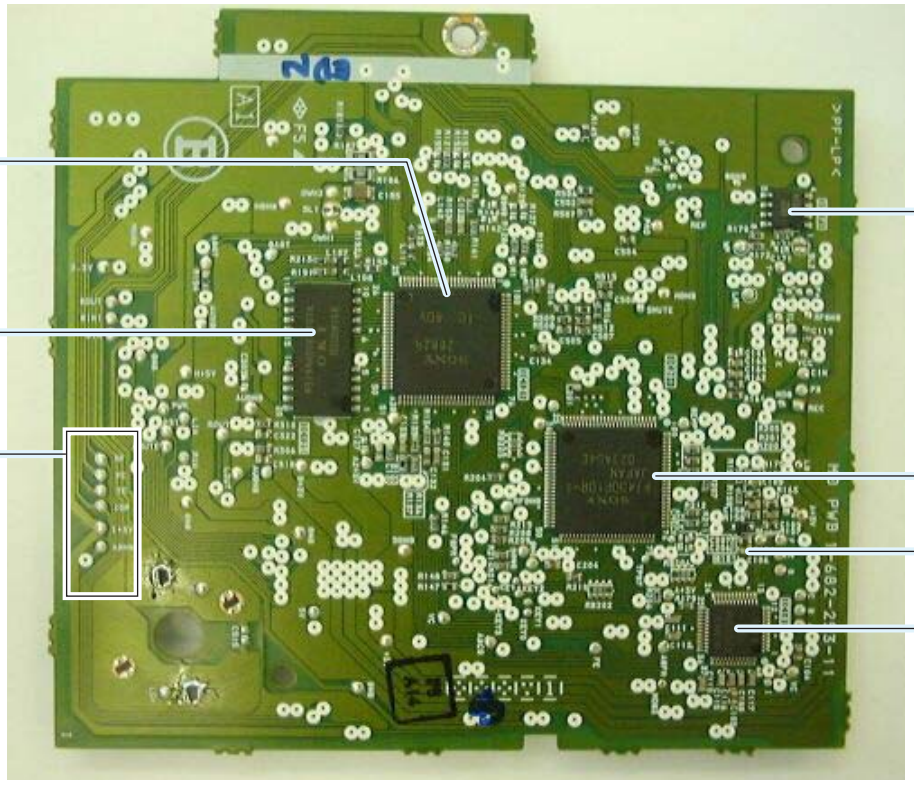
REF. NO.	PART NO.	DESCRIPTION
51	3348-998-51	Pan tapping screw(M1.4×3.5)
52	2167-550-01	Plate(M), Pre load
53	---	Wire, SL motor lead
54	---	Wire, SL motor lead
55	X2162-145-1	Sled motor ass'y
56	2646-571-11	Gear(MD)
57	2167-551-01	Plate(M), main shaft fixed
58	X2162-144-1	Screw ass'y, lead
59	2646-358-11	Screw(B1.7 x 4)
60	X2162-143-1	Spindle motor ass'y
61	---	Mounted, PWD(D)SW
62	---	Chassis(M), mehanical
63	3039-041-01	Screw(M1.4 x 3)
64	2168-512-01	Plate, protection
65	2167-819-01	Shaft(M), guide
66	2647-338-01	Spring, rack
67	2627-529-01	Grip(1.7 x 2.5 type2)
68	8583-079-06	Optical pick up, KMS-260E
69	---	Deck ass'y, mechanical
70	1669-180-11	OP Flexible flat cable
71	1783-387-11	Flexible flat cable(7core)

EXPLODED VIEWS OF MECHANISM-3

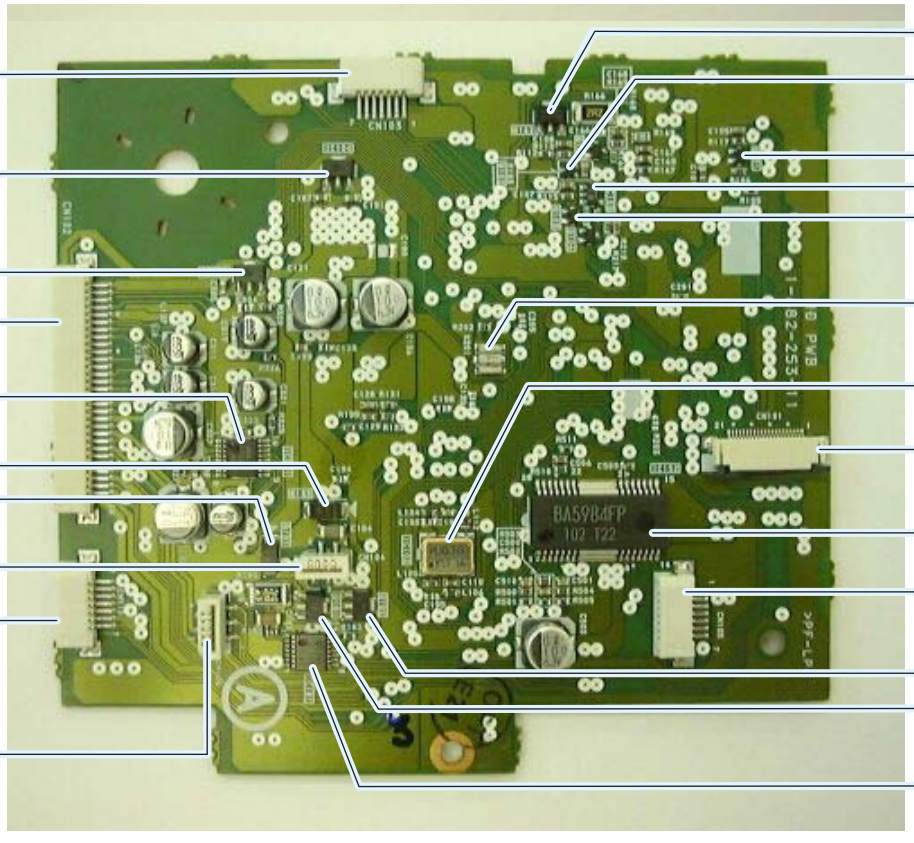
MD MECHANISM: KMK-260EDN

MD Mount view

Side-A



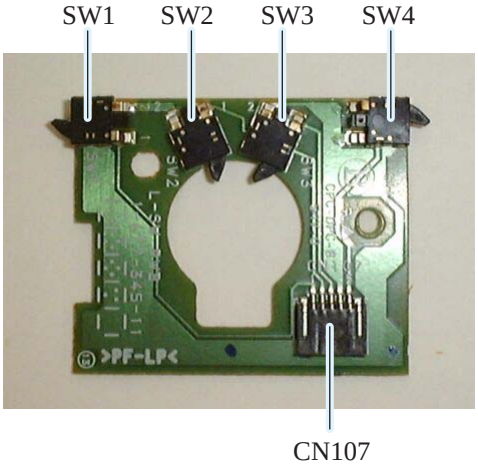
Side-B



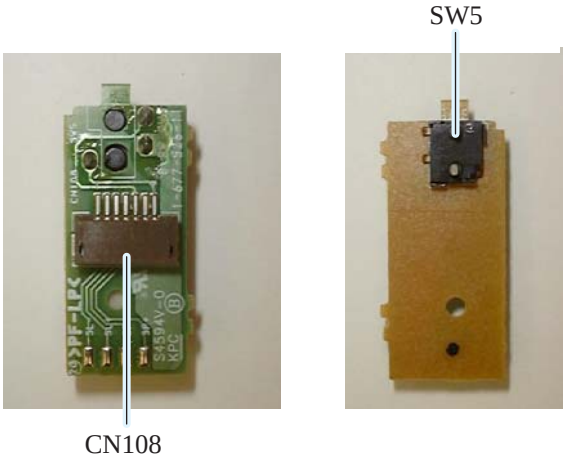
EXPLODED VIEWS OF MECHANISM-4

MD MECHANISM: KMK-260EDN

L-SW PC BOARD VIEW



D-SW PC BOARD VIEW

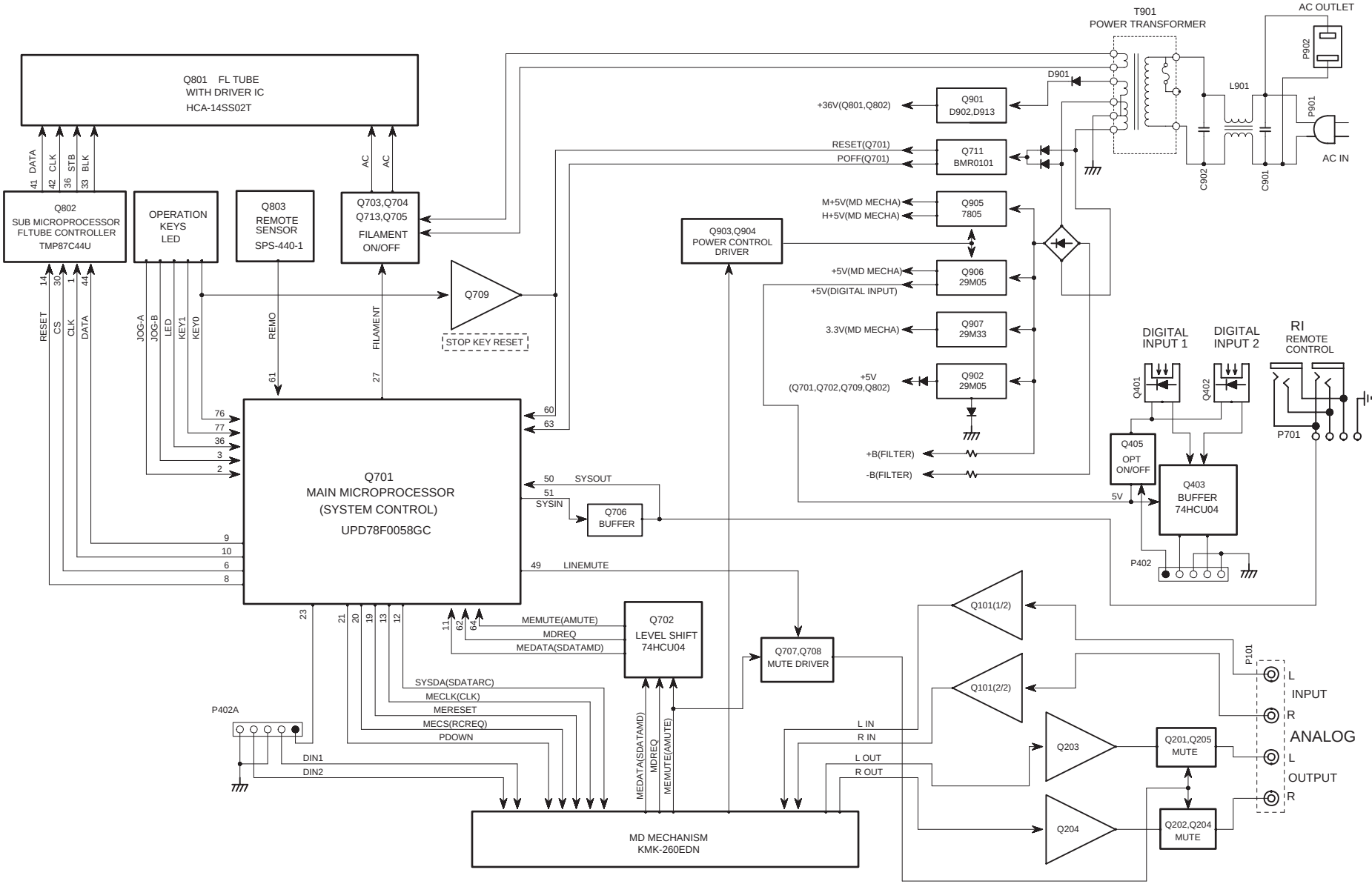


PARTS LIST(MD mount section)

The mechanical parts with no part number in the exploded views are not supplied.

REF. NO.	PART NO.	DESCRIPTION
IC101	8752-080-95	CXA2523AR, IC
IC102	1781-569-21	90M, oscillator
IC103	8729-903-10	FMW1-T-148, IC
IC104,IC105	8759-689-63	RH5RZ35CA-R1, IC
IC121	8752-404-64	CXD2662R, IC
IC125	8759-671-27	MSM51V4400E-70TS-K, IC
IC152	8759-574-24	BA5984FP-E2, IC
IC171	8759-640-39	BR24C02F-WE2, IC
IC181	8759-523-35	TC74ACT02FT(EL), IC
IC201	8752-926-12	CXP740010-060R, IC
IC301	6700-563-01	AK4552VT-E2, IC
Q101	8729-028-91	DTA144EUA-T106, Transistor
Q102	8729-026-53	2SA1576A-T106-QR, Transistor
Q103	8729-028-96	DTC114EUA-T106, Transistor
Q162	8729-101-07	2SB798-T1DK, Transistor
Q181	8729-018-75	2SJ278MY, Transistor
D101	223269R2	1SS355, Diode
D181,D183	8719-046-87	F1J6TP, Diode
Q182	8729-017-65	2SK1764KY, Transistor
X201	1767-179-31	12M, oscillator
CN101	1691-385-21	Connector, FFC/FPC(21P)
CN102	1778-461-11	Connector FFC/FPC(29P)
CN103,CN105,CN110	1779-345-11	Connector FFC/FPC(7P)
CN104	1778-283-11	Connector FFC/FPC(4P)
CN106	1779-353-21	Connector FFC/FPC(5P)
SW1-SW4	1771-092-21	Push switch (1key)
SW5	1771-327-11	Switch 2pin push(2key)
---	---	Mount, L SW
---	---	PWB, L SW
CN107	1785-242-21	Connector, FFC/FPC(5P)
---	---	D SW mount
---	---	D SW PWB
CN108	1794-627-21	Connector, FFC/FPC(7P)

BLOCK DIAGRAM



A B C D

1 2 3 4 5

SCHEMATIC DIAGRAMS

NADIS-7301

U4

DISPLAY PC BOARD

NOTE

- THE COM
- REPLACE
- VOLTAGE
- ELECTRO
- ALL CAPA
- EX) 030
- ALL RESI
- THE THIC
- EX)
- CIRCUIT

NADG-7299

U4 MICROPROCESSOR PC BOARD

MD MECHANISM

E F G H

TE

COMPONENTS IDENTFIED BY MARK ⚠ ARE CRITICAL FOR SAFETY.
LACE ONLY WITH PART NUMBER SPECIFIED.
TAGE (MEASURED WITHVOLTMETER) ▭ IS DCVOLTAGE. (NO INPUT SIGNAL)
CTROLYTIC CAPACITORS (⊣+) ARE IN uF/WV.
CAPACITORS ARE IN pF/50WV UNLESS OTHERWISE NOTED.
030→3pF 330→33pF 331 330pF 333→0.033uF
RESISTORS ARE IN OHMS 1/4WATTS UNLESS OTHERWISE NOTED.
THICK LINES ON PC BOARD ARE THE PRINTING SIDE OF THE PARTS.
PRINTING SIDE
CUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

[NOTES]
MJJ : Japan model
MDT : Taiwanese model
MGR : Chinese model
MGT : Korean model

U5 AC OUTLET PC BOARD

MGT
NAETC-7302
F901 T2AL250V
P902
AC OUTLET
J1B J2B

MJJ,MGR,MDT
NAETC-7302
P902
AC OUTLET
J1B J2B

U3 POWER TRANSFORMER PC BOARD

NAPS-7300
JL901A
C903 473
C951 473
T901
F1
F2
NC
AC2
GND
AC1
J1A J2A
L901
C902
C901
P901

AC IN
MJJ : 100V 50/60Hz
MGT,MGR : 230V 50/60Hzz
MDT : 120V 60Hz

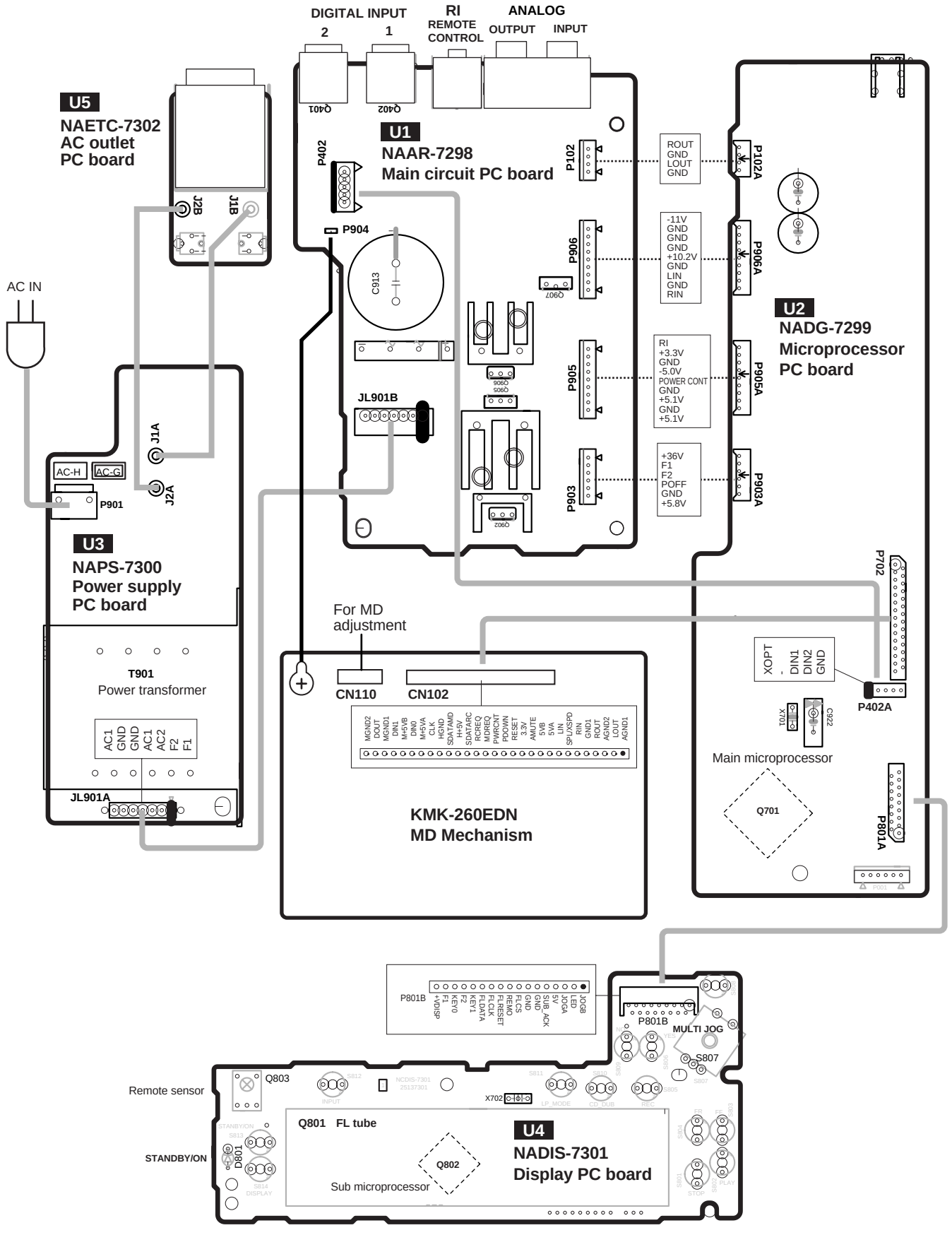
	C901,C902
MJJ	103Z
MDT	103M
MGR, MGT	472M

ER SUPPLY PC BOARD
R-7298

+VDIS
Q901 KTD863
Q908 KRA107S
D901 GP104003E
Q909 KRC107S
D914 1SS352
D904 R905 100
D905 R906 100
JL901B
D906 RS403M
D901,D906-D909 RL1N4003 or GP104003E
Q902 MPC29M05
Q903 KRC107S
Q904 2SB1068
Q905 MPC2905
Q906 MPC29M05
Q907 MPC29M33
C917 470/6.3
C918 470/6.3
C919 220/6.3
DIN0
DIN1
OPT OFF
P402
To P402A
Q405 KRA107S
74HCU04 Q403
Q401
Q402
DIGITAL INPUT
OPTICAL
P905
P906
P905A
P906A
RIN
LIN
Q709 NJM4565M
Q710 KRC107S
POWER CONT
RI
P701
BL02RN2-R62
L701
P101
L
INPUT
R
ANALOG
L
OUTPUT
R
LOUT
ROUT
NJM2100
Q101
P102
P102A
R914 120 (1/2W)
NJM4565M
Q203
Q204
Q205
Q206
Q201
Q202
2SD655
MUTE
P702
SDATARC
RCREQ
MDREQ
PWRCNT
PDOWN
RESET
3.3V
AMUTE
5VB
5VA
LIN
SPLOCKPD
RIN
GND1
ROUT
AGND2
LOUT
AGND1

ANISM KMK-260EDN

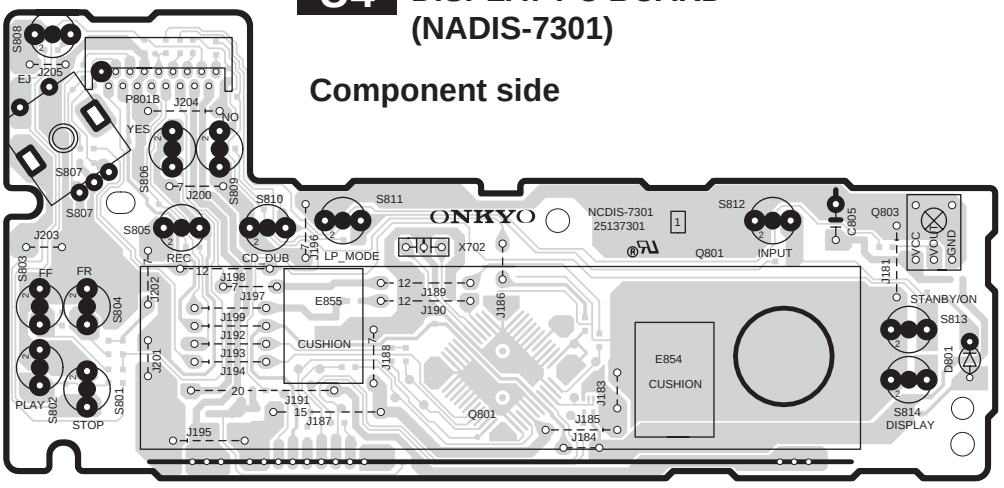
PC BOARD CONNECTION DIAGRAM



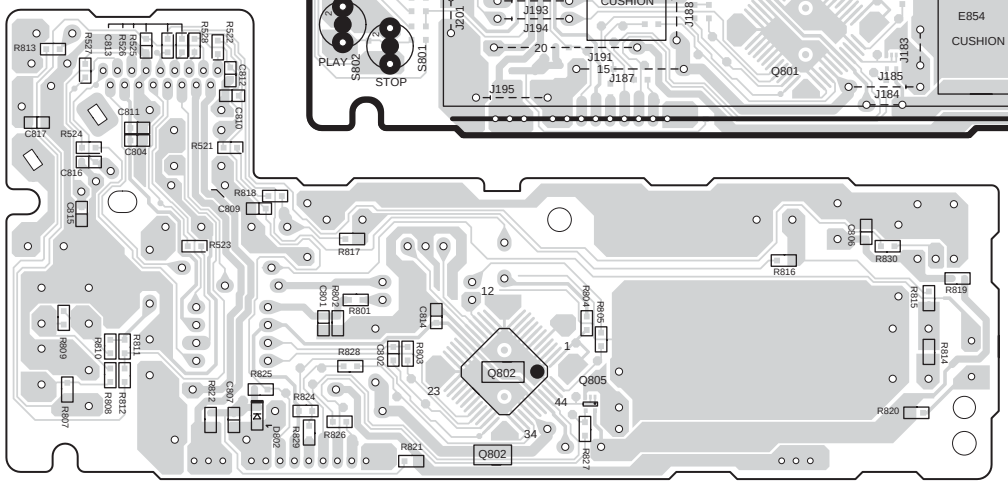
PRINTED CIRCUIT BOARD VIEWS-1

U4 DISPLAY PC BOARD (NADIS-7301)

Component side

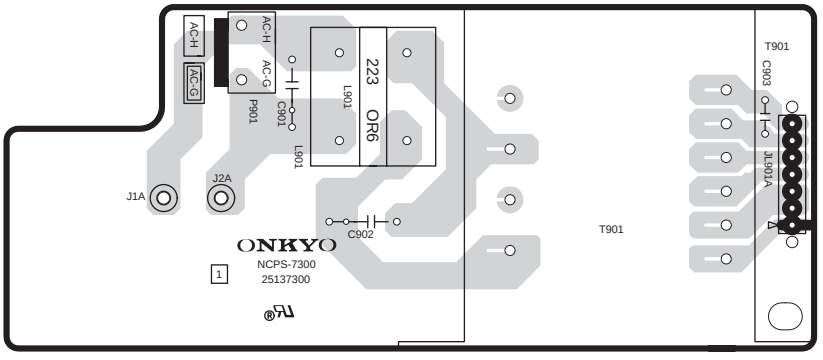


Soldering side

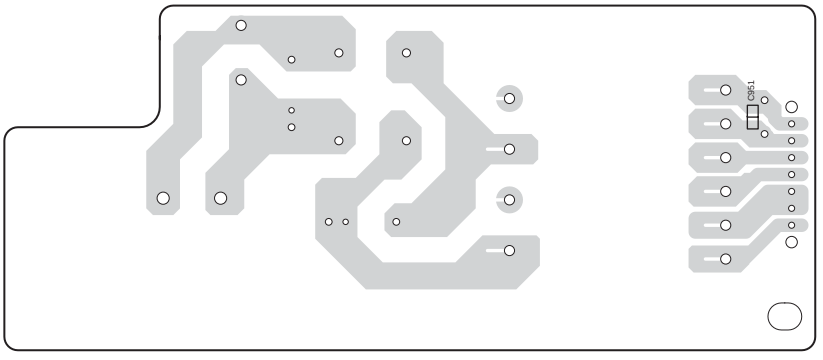


U3 POWER TRANSFORMER PC BOARD (NAPS-7300)

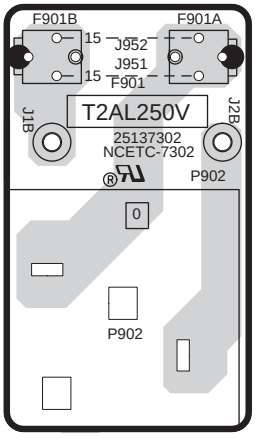
Component side



Soldering side



U5 AC OUTLET PC BOARD (NAETC-7302)

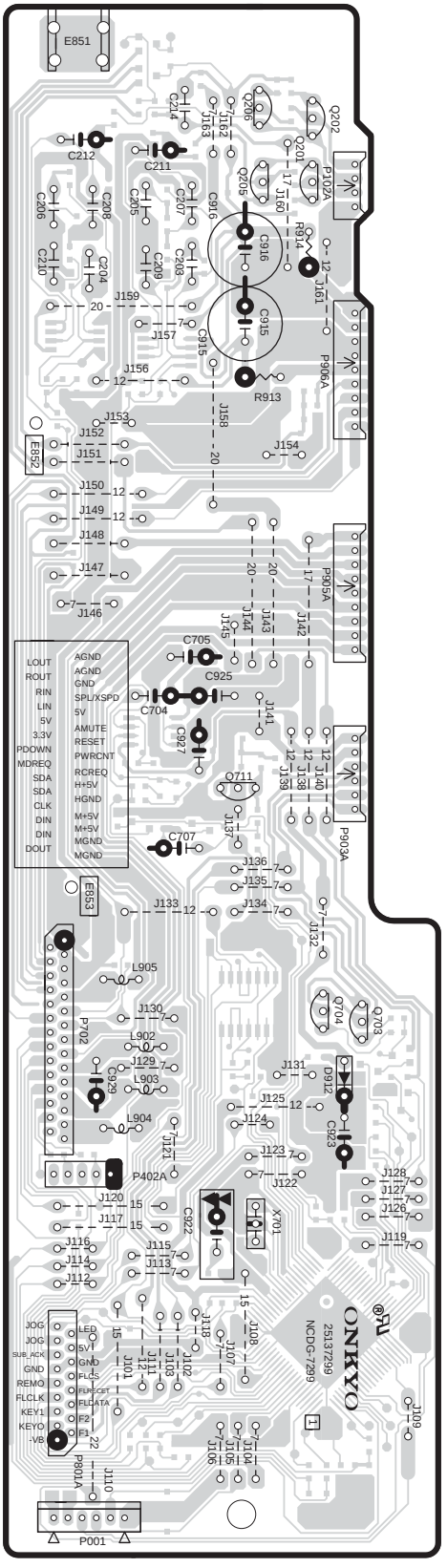


A B C D

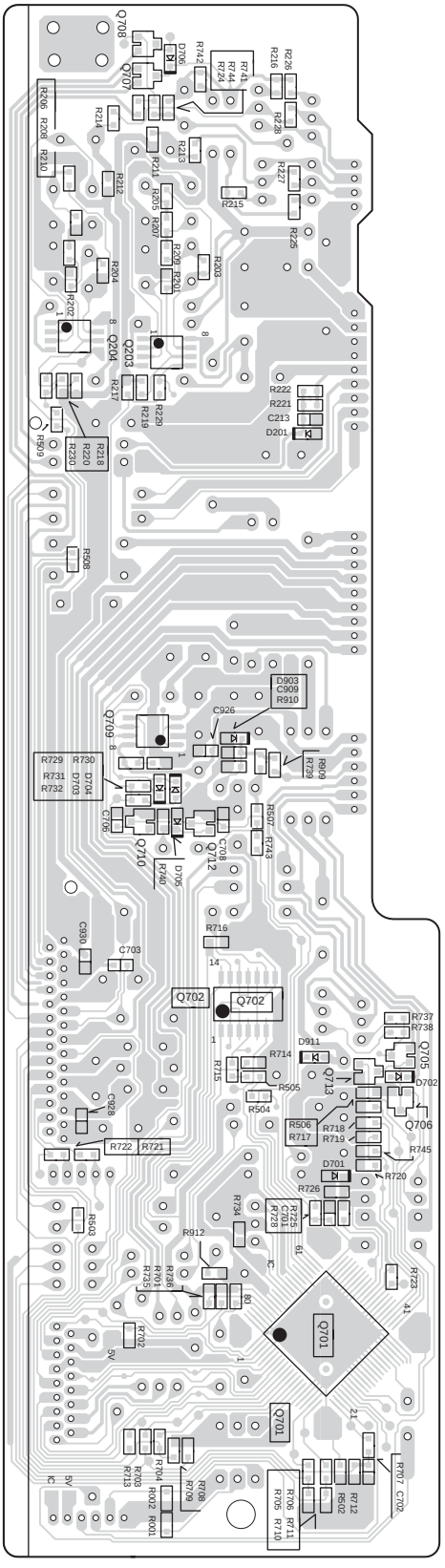
PRINTED CIRCUIT BOARD VIEWS-2

U2 MICROPROCESSOR PC BOARD (NADG-7299)

Component side



Soldering side

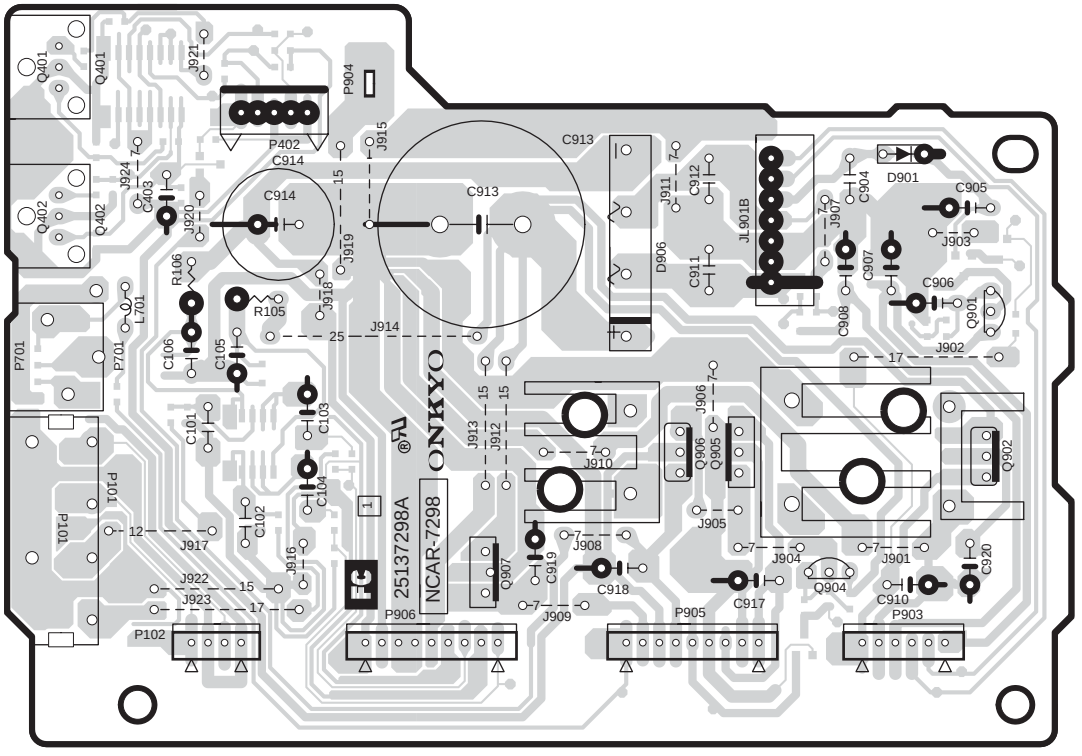


A B C D

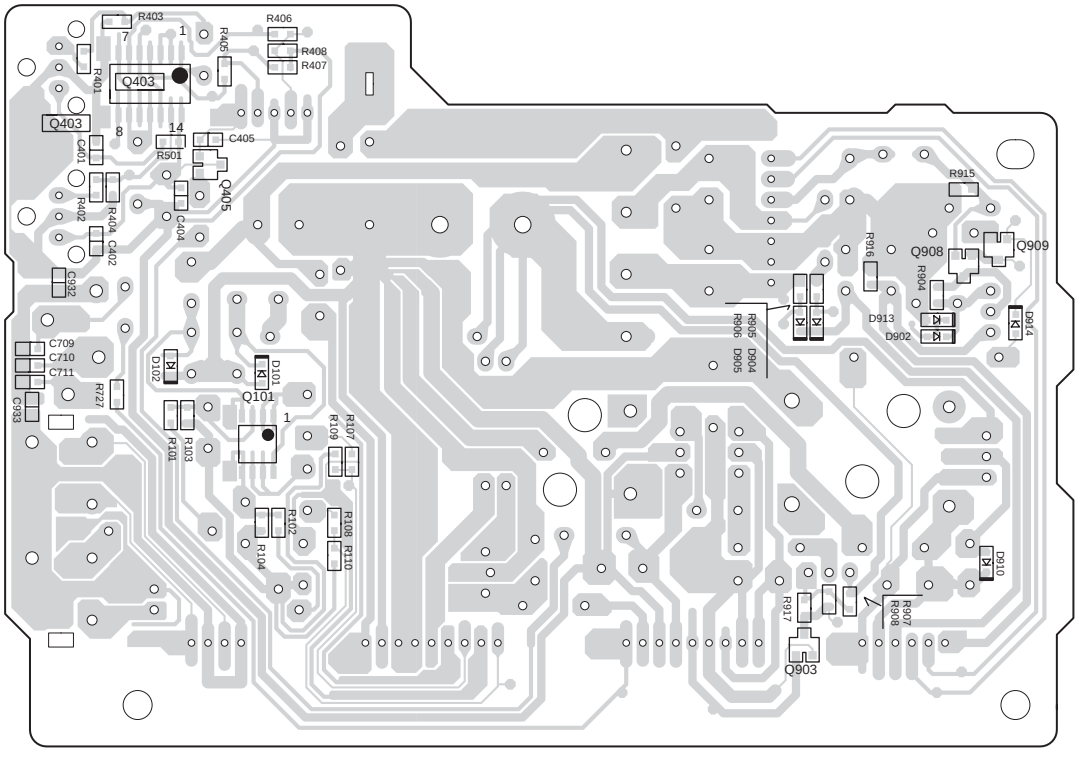
PRINTED CIRCUIT BOARD VIEWS-3

U1 POWER SUPPLY PC BOARD (NAAR-7298)

Component side



Soldering side



PRINTED CIRCUIT BOARD PARTS LIST-1

U1 MAIN CIRCUIT PC BOARD (NAAR-7298-1B/1C/1D)

CIRCUIT NO.		PART NO.	DESCRIPTION
		ICs	
Q101		22240608R1	NJM2100M
Q401,Q402		24120083 or	GP1FA550RZ
		24120086	GP1FA551RZ
Q403		222740046R2TO	TC74HCU04F
Q902,Q906		22278005ENE	MPC29M05HF
Q905		22278005DNE	MPC2905HF
Q907		22278033ENE	MPC29M33HF
		Transistors	
Q405,Q908		2216480R2 or	DTA114YKA or
		2216350R2	KRA107S
Q901		2211853 or	2SD667-C or
		2216605 or	KTD863-GR or
		2216604	KTD863-Y
Q903,Q909		2216470R2 or	DTC114YKA or
		2216340R2	KRC107S
Q904		2212855 or	2SB1068-U or
		2212853	2SB1068-K
		Diodes	
D101,D102	⚠	224490240R2	UDZ2.4B
D901	⚠	22380260 or	RL1N4003 or
		22380035	GP104003E
D902,D913		224551800R2	UDZS18B
D904,D905,D914		223234R2 or	1SS352 or
	⚠	223269R2	1SS355
D906	⚠	22380022F or	RBV402 or
	⚠	22380271F or	D3SBA20 or
		22380285F	RS403M
		Coil	
L701		230906	BL02RN2-R62, EMI filter
		Capacitors	
C103,C104		354782209	CE04W50V-22uF, Elect.
C105,C106,C910		354721019	CE04W6.3V-100uF, Elect.
C904		374722244	ECQ-V50V-224J, Plastic
C905,C906		354784709	CE04W50V-47uF, Elect.
C907		354780479	CE04W50V-4.7uF, Elect.
C908		354742209	CE04W16V-22uF, Elect.
C911,C912		374723344	ECQ-V50V-334J, Plastic
C913		3504348	CE69W16V-22000M(LQ), Elect.
C914		354742229S	CE04W16V-2200uF, Elect.
C917,C918		354724719	CE04W6.3V-470uF, Elect.
C919		354722219	CE04W6.3V-220uF, Elect.
C920		354741009	CE04W16V-10uF, Elect.
		Resistors	
R105,R106		443523914	RS1/2WBJ-390 ohm
		Jacks	
P101		25045594	NPJ-4PDWR405
P701		25045601	NPJ-2PDB409
		Socket	
JL901B		25050271	NSCT-7P99
		Plugs	
P102		25055804	NPLG-4P760
P402		25055149	NPLG-5P133
P903		25055702	NPLG-6P658
P905,P906		25055705	NPLG-9P661
		Others	
Q902A		27160484	RAD-153
Q905A		27160472	RAD-141
Q906A		27160227	(RAD-076), Heat sink
Q902B,Q906B		82143010	3P+10FN(BC), Pan head screw

NOTE:
<DT> : Taiwanese model only
<GT> : Asian model only
<GR> : Chinese model only

NOTE : THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

PRINTED CIRCUIT BOARD PARTS LIST-2

U2 MICROPROCESSOR PC BOARD (NADG-7299-1B/1C/1D)

CIRCUIT NO.	PART NO.	DESCRIPTION
Q203,Q204,Q709	22241383R2	NJM4565M-D
Q701	22241670R3	MPD780056GC-038-8BT
Q702	222740046R2TO	TC74HCuF04F
Q711	22241210	BMR-0101D
	Transistors	
Q201,Q202	2211705 or	2SD655-E or
Q205,Q206	2211706	2SD655-F
Q703,Q704	2211705 or	2SD655-E or
	2211706	2SD655-F
Q705,Q706,Q707,Q708	2216350R2 or	KRA107S or
	2216480R2	DTA114YKA
Q710,Q713	2216470R2 or	DTC114YKA or
	2216340R2	KRC107S
Q712,Q804	2214770R2 or	DTC144EK or
	2216210R2	KRC104S
	Diodes	
D201	224550470R2	UDZS4.7B
D701	224550560R2	UDZS5.6B
D702-D706	223234R2 or	1SS352 or
	223269R2	1SS355
D903	224550510R2	UDZS5.1B
D910-D911	223234R2 or	1SS352 or
	223269R2	1SS355
D912	22380260 or	RL1N4003 or
	22380035	GP104003E
	Coils	
L902-L905	230906	BL02RN2-R62, EMI filter
	Oscillator	
X701	3010343	CSTS0500MG06, Ceralock
	Capacitors	
C101,C102,C203,C204	374721015	ECQ-B50V-101K, Plastic
C205-C208	374728224	ECQ-B50V-822J, Plastic
C209,C210	374721024	ECQ-B50V-102J, Plastic
C211,C212	354784709	CE04W50V-47uF, Elect.
C214	374721044	ECQ-V50V-104J, Plastic
C403,C929	354721019	CE04W6.3V-100uF, Elect.
C704,C705	354741019	CE04W16V-100uF, Elect.
C707,C808	354780109	CE04W50V-1uF, Elect.
C915,C916	354744719	CE04W16V-470uF, Elect.
C922	3000120	FMC0H104Z, Super
C923	354722219	CE04W6.3V-220uF, Elect.
C925,C927	354741009	CE04W16V-10uF, Elect.
	Resistors	
R913,R914	443521214	RS1/2WBJ-120 ohm
	Terminal	
P904	25060140	NTM-1S68, Terminal
	Sockets	
P102A	25051526	NSCT-4P1313
P402A	2009990681UL	NSAS-10P0947
P702	25052523 or	NSCT-29P2420 or
	25052329	NSCT-29P2226
P801A	25052317 or	NSCT-17P2214 or
	25052511	NSCT-17P2408
P903A	25051231	NSCT-6P1021
P905A,P906A	25051234	NSCT-9P1024
	Others	
E852,E853	27190540-1	(CLAMP)
E854,E855	28141471	Cushion
Q905	82143010	3P+10FN(BC), Pan head screw

NOTE:
<DT> : Taiwanese model only
<GT> : Asian model only
<GR> : Chinese model only

NOTE : THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

PRINTED CIRCUIT BOARD PARTS LIST-3

U3 POWER SUPPLY PC BOARD (NAPS-7300-1B/1C/1D)

CIRCUIT NO.		PART NO.	DESCRIPTION
		Coil	
L901	⚠	231287	NCH-3567, Choke coil
		Capacitors	
C901,C902	⚠	3300030	DE1307E472M-KH, IS <GT,GR>
	⚠	3300031	DE1607F103M-KH, IS <DT>
		Plug	
P901A	⚠	25055675	NPLG-2P631
		Holder	
JL901A		25051111	NSCT-7P898, Wire holder

U4 DISPLAY PC BOARD (NADIS-7301-1B/1C/1D)

CIRCUIT NO.	PART NO.	DESCRIPTION
	FL Tube	
Q801	212220	HCA-14SS02T
	Remote sensor	
Q803	241339	SPS-440-1-N
	ICs	
Q802	22241671R3	TMP87C447uF-3GC6
Q805	22241158R2	TC7S00FuF
	Diode	
D801	225338	SLR-332VR, LED
D802	224550560R2	UDZS5.6B
	Oscillator	
X702	3010341	CSTLS800MG56, Ceralock
	Capacitor	
C805	355721019	CE04W6.3V-100uF, Elect.
	Rotary encoder	
S807	25065621	EC11E18244, Rotaly encoder
	Push switches	
S801-S814	25035699	NPS-111-S662
	Socket	
P801B	25052354 or	NSCT-17P2251 or
	25052538	NSCT-17P2435

U5 AC OUTLET PC BOAD (NAETC-7302-1B/1C/1D)

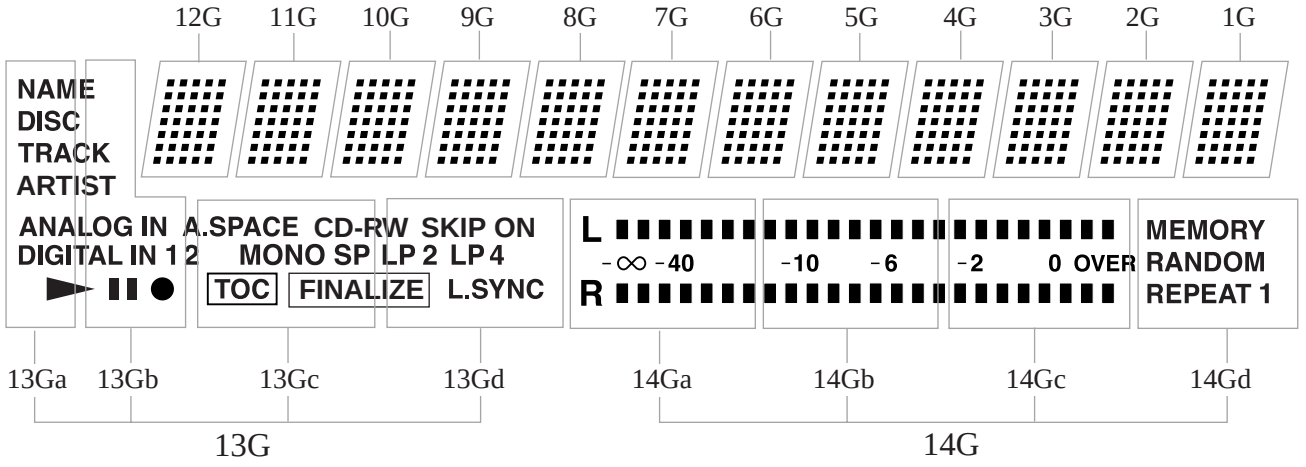
CIRCUIT NO.		PART NO.	DESCRIPTION
		Fuse holders	
F901A, F901B	⚠	25052133	NSCT-1P2031 <GT,GR>
		Sockets	
P902	⚠	25051637	NSCT-2P1424 <GT>
	⚠	25051990	NSCT-2P1777 <DT>
	⚠	25052611	NSCT-2P2508, AC Outlet <GR>

NOTE:
<DT> : Taiwanese model only
<GT> : Asian model only
<GR> : Chinese model only

NOTE : THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

FL TUBE VIEW

Q801:HCA-14SS02T



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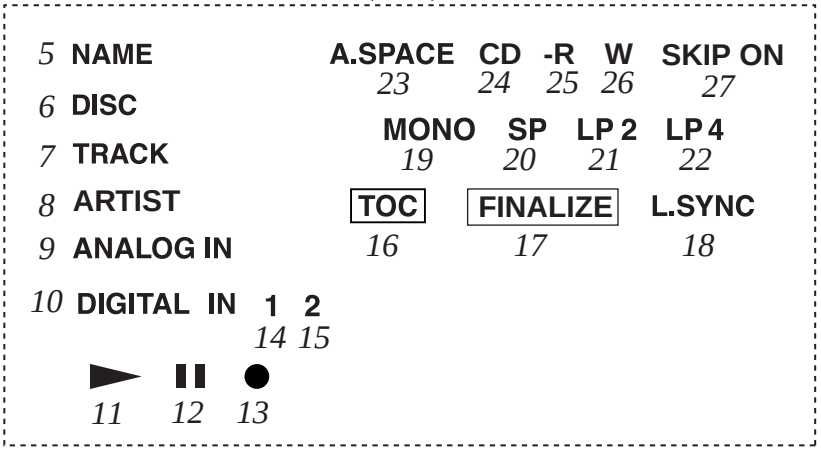
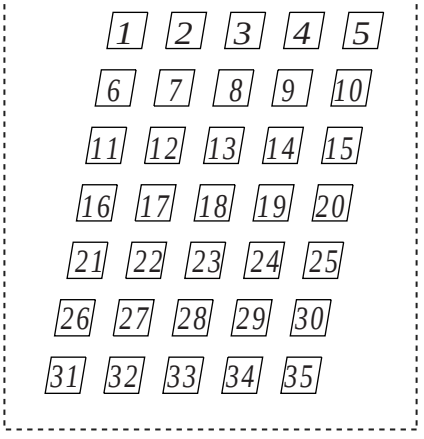
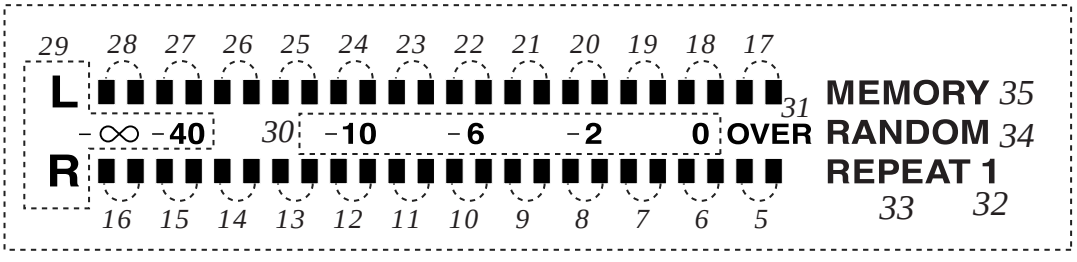


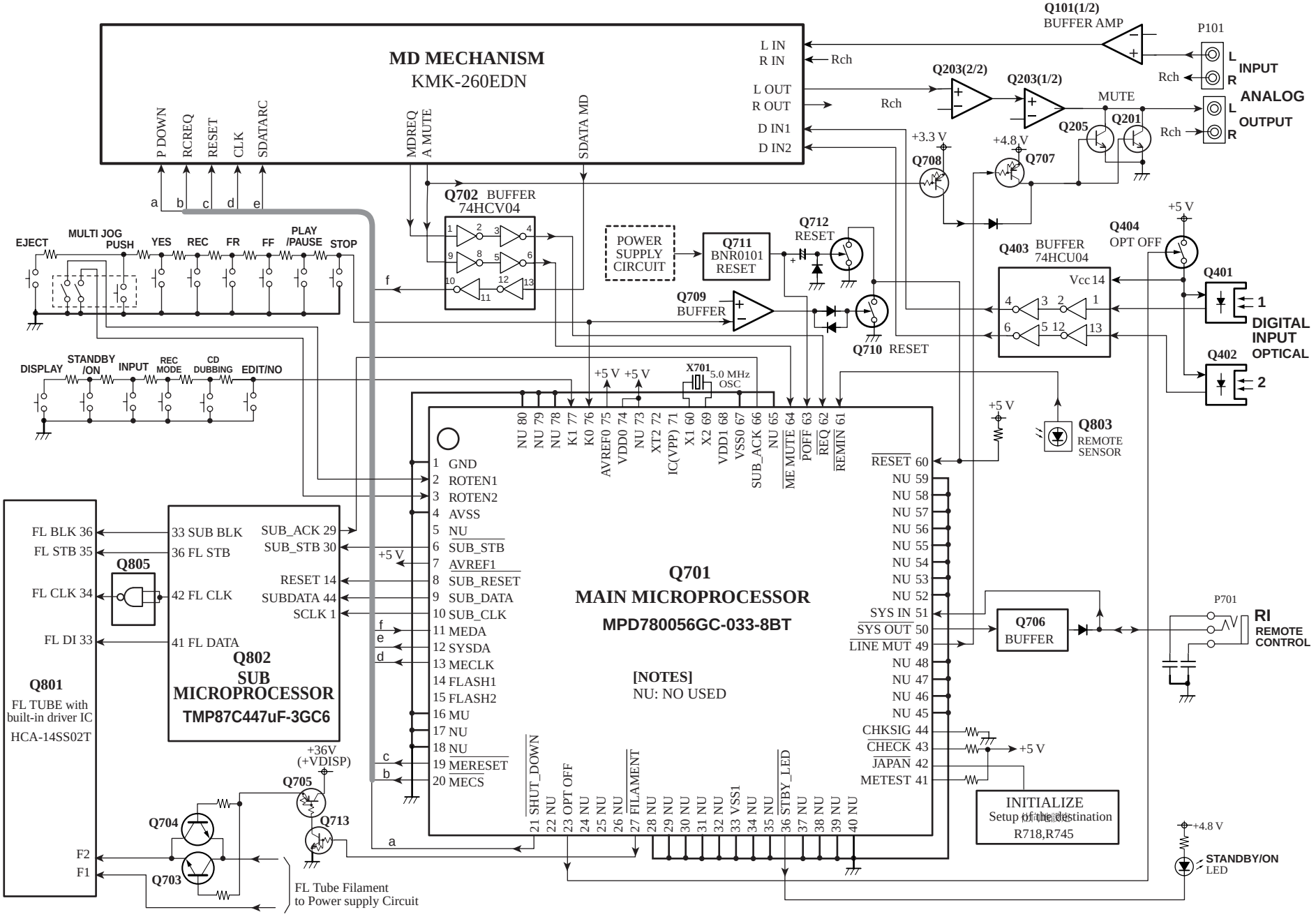
(12G - 1G)



(14G)



MICROPROCESSOR CONNECTION DIAGRAM



MICROPROCESSOR TERMINAL DESCRIPTIONS-1

Q701: MPD780056GC-033-8BT (MAIN MICROPROCESSOR)

PIN NO.	FUNCTION	I/O	DESCRIPTION	PIN NO.	FUNCTION	I/O	DESCRIPTION
1	NOT USED (GND)	I	Not used. (Connect to ground)	41	METEST	I	The input terminal for test mode setup of MD mechanism.
2	ROTEN1	I	Pulse input terminal from rotary encoder (MULTI JOG).	42	$\overline{\text{JAPAN}}$	I	Input terminal for carrying out initial setting of the destination
3	ROTEN2	I		43	$\overline{\text{CHECK}}$	I	Input terminal for setting up the check mode of the program
4	AVSS	I	Negative power supply input terminal for D/A converter.	44	CHKSIG	O	Signal output terminal for check of program.
5	NOT USED	I	Not used.	45	NOT USED (GND)	I	Not used. (Connect to ground)
6	$\overline{\text{SUB STB}}$	O	Output terminal of tip selection for serial communication with sub microprocessor.	46		I	
7	AVREF1	---	Reference voltage input terminal for D/A converter.	47		I	
8	$\overline{\text{SUB RESET}}$	O	Reset signal output terminal to sub microprocessor.	48		I	
9	SUB DATA	O	Serial data output terminal to sub microprocessor.	49	$\overline{\text{LINEMUTE}}$	O	Output terminal for muting circuit control
10	SUB CLK	O	Clock output terminal for serial communication to sub microprocessor.	50	$\overline{\text{SYSOUT}}$	O	System control (RI) signal output terminal.
11	MEDA	I	Serial data input terminal from MD mechanism.	51	SYSIN	I	System control (RI) signal input terminal.
12	SYDA	O	Serial data output terminal to MD mechanism.	52	NOT USED (GND)	I	Not used. (Connect to ground)
13	MECLK	O	Clock output terminal for the serial communication with MD mechanism.	53		I	
14	FLASH1	I	Input terminal for writing at the time of flash microprocessor use.	54		I	
15	FLASH2	I		55		I	
16	NOT USED(GND)	I	Not used. (Connect to ground)	56		I	
17		I		57		I	
18		I		58		I	
19	$\overline{\text{MERESET}}$	O	Reset output terminal for MD mechanism.	59		I	
20	$\overline{\text{MECS}}$	O	Signal output terminal for serial communication with MD mechanism.	60	$\overline{\text{RESET}}$	I	Input terminal of system reset.
21	$\overline{\text{SHUT DOWN}}$	O	Power failure detected signal output terminal to MD mechanism.	61	$\overline{\text{REMIN}}$	I	Input terminal of the remote control signal from the remote sensor.
22	NOT USED (OPEN)	O	Not used. (Open)	62	$\overline{\text{REQ}}$	I	Signal input terminal for communication with MD mechanism.
23	OPT OFF	O	Output terminal for control of the optical digital input.	63	$\overline{\text{POFF}}$	I	Input terminal of power failure detected signal.
24	NOT USED (OPEN)	O	Not used. (Open)	64	$\overline{\text{ME MUTE}}$	I	Muting signal input terminal from MD mechanism.
25		O		65	NOT USED (GND)	I	Not used. (Connect to ground)
26		O		66	SUB ACK	I	Signal input terminal of the completion of serial data reception from the sub microcomputer
27	FILAMENT	O	Output terminal for filament control of FL tube.	67	VSS0 (GND)	---	Negative power supply input terminal of the port part.
28	NOT USED(GND)	I	Not used. (Connect to ground)	68	VDD1	---	Positive power supply input terminal.
29		I		69	X2	O	Connection terminal of the oscillation element of main system clock. (5MHz)
30		I		70	X1	I	
31		I		71	IC (VPP)	I	Internal connection terminal.
32		I		72	XT2 (OPEN)	O	Sub system clock oscillation element connection terminal.
33	VSS1	I	Negative power supply input terminal. (Connect to ground)	73	XT1	I	
34	NOT USED (GND)	I	Not used. (Connect to ground)	74	VDD0	---	Positive power supply input terminal of port section.
35		I		75	AVREF0	I	Reference voltage input terminal of A/D converter.
36	$\overline{\text{STBYLED}}$	O	Output terminal for control of STANDBY/ON LED.	76	K0	I	Input terminal from operation keys. (Inputs by A/D conversion.)
37	NOT USED (GND)	I	Not used. (Connect to ground)	77	K1	I	
38		I		78	NOT USED (GND)	I	Not used. (Connect to ground)
39		I		79		I	
40		I		80		I	

MD-101A

MICROPROCESSOR TERMINAL DESCRIPTIONS-2

Q802: TMP87C447uF-3GC (SUB MICROPROCESSOR)

PIN NO.	FUNCTION	I/O	DESCRIPTION	PIN NO.	FUNCTION		DESCRIPTION
1	SUB_CLK	I	Input terminal of serial data clock from main microprocessor.	23	NOT USED	---	Not used. (Connect to ground)
2	NOT USED	---	Not used. (Connect to ground)	24	NOT USED	---	
3	NOT USED	---		25	NOT USED	---	
4	NOT USED	---		26	NOT USED	---	
5	CHECK	O	Check terminal.	27	NOT USED	---	
6	NOT USED	---	Not used. (Connect to ground)	28	NOT USED	---	
7	NOT USED	---		29	SUB_ACK	O	Output terminal which gives the completion notice of data receipt to main microcomputer.
8	NOT USED	---		30	SUB_STB	I	Input terminal of the STB signal from the main microcomputer
9	NOT USED	---		31	NOT USED	---	Not used. (Connect to ground)
10	NOT USED	---		32	NOT USED	---	
11	NOT USED	---		33	NOT USED	---	
12	NOT USED	---		34	NOT USED	---	
13	TEST	I	Test terminal.	35	NOT USED	---	
14	RESET	I	Input terminal of system rest.	36	FL STB	O	Output terminal of the STB signal to the FL display driver IC.
15	OSC1	I	Connection terminal of the oscillation element.	37	NOT USED	---	Not used. (Connect to ground)
16	OSC2	O		38	NOT USED	---	
17	GND	---	Negative power supply input terminal of A/D converter.	39	NOT USED	---	
18	WAREF	---	Reference voltage input terminal of A/D converter.	40	VDD	---	
19	NOT USED	---	Not used. (Connect to ground)	41	FL DATA	O	Output terminal of the serial data to the FL display driver IC.
20	NOT USED	---		42	FL_CLK	O	Output terminal of the serial clock to the FL display driver IC.
21	NOT USED	---		43	NOT USED	---	Not used. (Connect to ground)
22	NOT USED	---		44	SUB_DATA	I	Input terminal of the serial data from the main microprocessor.

MD-101A

ADJUSTMENT PROCEDURES-1

The necessity for adjustment

◯ necessary ╳ unnecessary

Adjustment item	The exchanged parts			REMARKS
	Pickup unit	Parts on MD mount, and Motors	Mechanical parts	
1 Adjustment of Temperature Compensation Offset	╳	◯	◯	
2 Adjustment of laser power	◯	◯	◯	
3 Check of laser power	◯	◯	◯	
4 Adjustment of Traverse (EF balance)	◯	◯	◯	
5 Check of error rate in high reflectance disk	◯	◯	◯	
6 Check of error rate in low reflectance disk	◯	◯	◯	
7 Adjustment of focus Bias	✻	✻	✻	When an error rate is worse than the standard value, perform this work.
8 Check of focus bias	✻	✻	✻	

Notes in adjustment

1. Laser of pickup

> In case adjust, don't look at the laser of the pickup unit.
> You have fear of loss of eyesight.

2. Perform adjustment using test mode.

3. Perform adjustment as the indicated turn.

4. After adjustment should cancel test mode.

Equipment required for adjustment

1. Measuring instrument

Name	Manufactured	Description
Laser power meter	LEADER	LPM-8010
Optical sensor	LEADER	LP-8010-02
Oscilloscope		Frequency range is 40MHz or more. The calibration of the probe is performed.
Digital volt meter		

2. Test disk

Name	Manufactured	Description
MO disk		Standard disk for recording/play back
High reflectance disk	A-BEX	TMD-381

3. JIG

Name	Part No.	Details		
Extended JIG	0J12	PC board	Part No. NCJIG-0J12	
		FFC socket	Part No. 25052307	
Flexible flat cable	0F001	1mm pitch, 7 cores		

ADJUSTMENT PROCEDURES-2

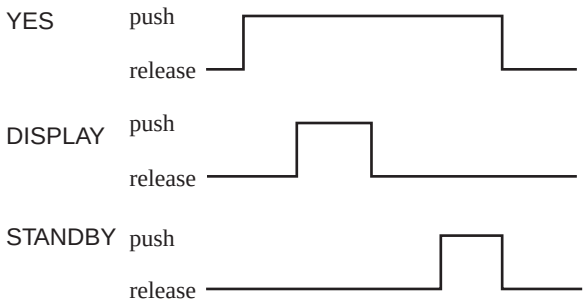
Explanation in test mode

1. How to test mode to enter

(1) Connect the power supply cord in the wall socket.
(2) While hold down the YES button, press the DISPLAY button at standby state.
(3) Release only the DISPLAY button, with press the YES button.
(4) Press the STANDBY button, with press the YES button.
(5) Release the STANDBY/ON and the YES simultaneously.

FL Display | TEMP ADJUST |

Time chart



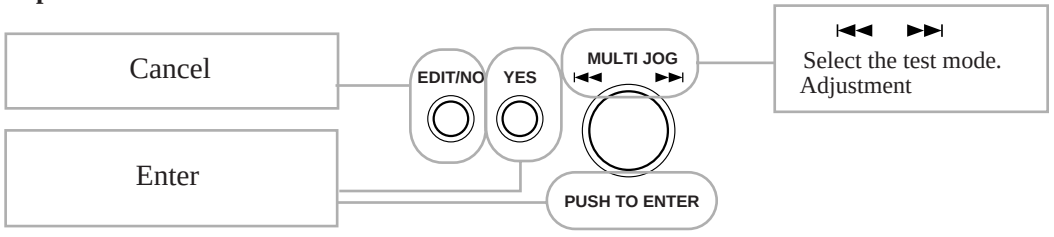
2. How to cancel test mode

Disconnect the power supply cord from the wall socket.

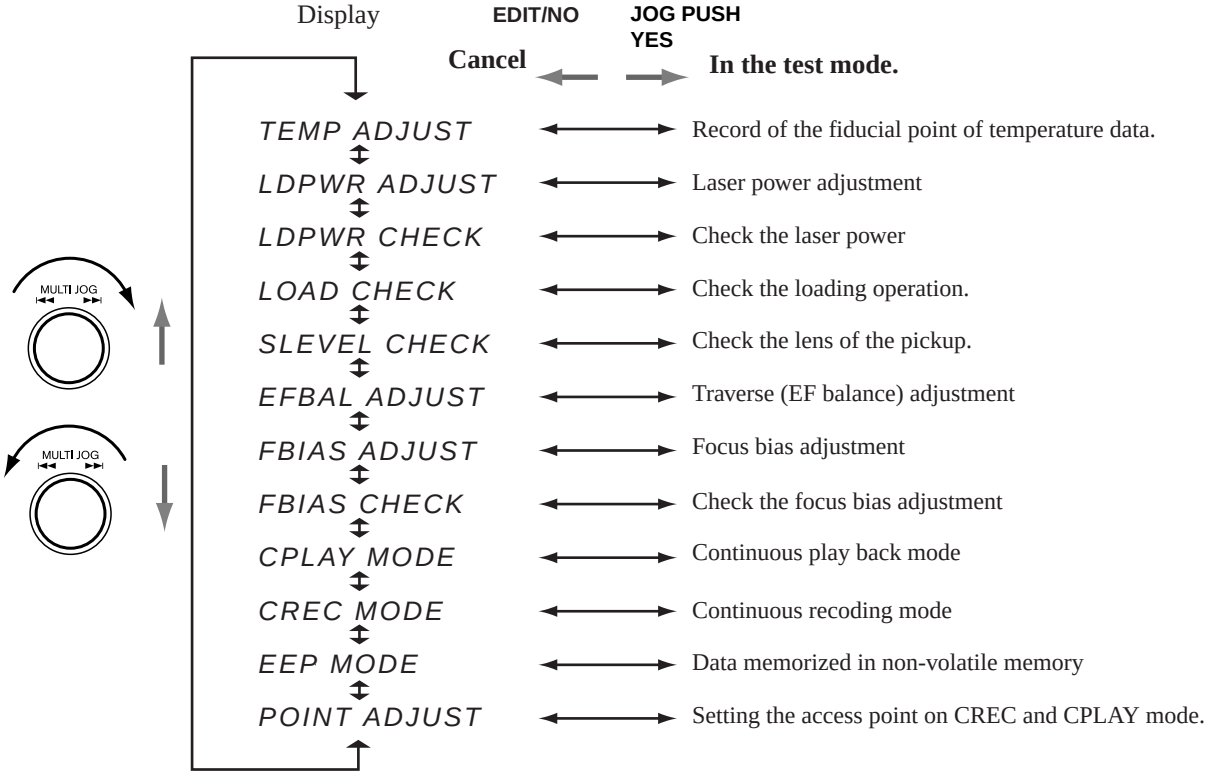
3. Cautions on Test Mode Use

Don't use the disk which you must not eliminate in test mode.
Push the EJECT button after pressing the EDIT/NO button, when taking out disk in test mode.

4. Basic operation in Test Mode



5. Selection Method in Test Mode

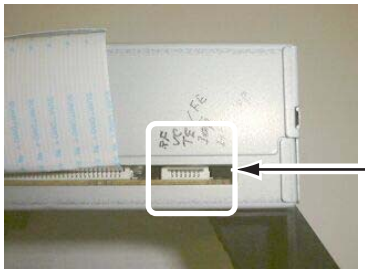


ADJUSTMENT PROCEDURES-3

Preparation of adjustment

1. Make the extended JIG and connection.

Connect to the MD mechanism



back side view

Flexible flat cable
Part No. 0F001

Connect to the
CN110
on the MD mechanism.

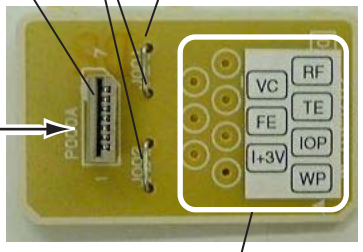
Connect to the
P000A
on the JIG.

Socket
Part No.25052307

Jumper wire

PC board
Part No.NCJIG-0J12

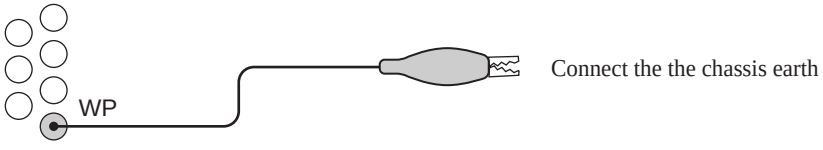
Extended JIG (KIT)
Part No.0J12



Attach the wire to required point
so that it may be easy to connect
measuring instrument etc.

2. Setting the WP terminal.

Be sure to do this work before adjustment.
An adjustment value cannot be set up unless you do this work.
(An adjustment value is not memorized by EEP ROM on MD mount.)



ADJUSTMENT PROCEDURES-4

The adjustment method

1 Adjustment of temperature compensation value

[NONE]

(1) Perform circumference temperature in the 22 to 28 degrees state.

(2) Adjust, after exchanging D101, and the temperature of this part turns into the same temperature as circumference temperature.

[CONNECTION]

(1) Connect to extended jig and the unit.

(2) Short-circuit WP terminal on the extended jJIG and the chassis ground. (Refer to setting WP)

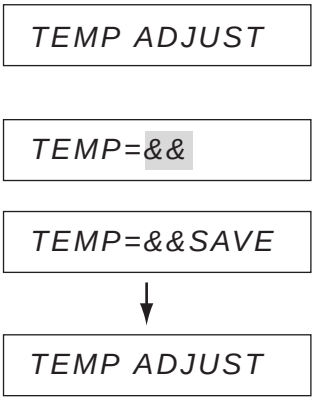
[Adjustment]

(1) Select the *TEMP ADJUST* in the test mode.

(2) Press the JOG knob.

(3) Press the JOG knob.

FL Display

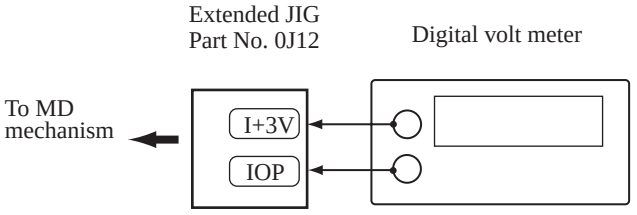


ADJUSTMENT PROCEDURES-5

Adjustment of laser power

2 [Preparation]

(1) Connect digital volt meter to I+3V and IOP on Extended JIG.
(2) Set the optical sensor to laser power meter.
(3) Loading of the optical sensor to the unit.



[Adjustment]

FL Display

(1) Turns the JOG knob, and select the *LDPWR ADJUST* mode. — LDPWR ADJUST

(2) Press the JOG button . — LD 0.9mW $XX

(3) Turn the JOG knob, adjust so that reading of the laser power meter becomes 0.86 to 0.92mW. — LD 0.9mW $XX

[Note]
Do the work to (5)-(7) within 15 seconds.
Since continuation luminescence of the 7mW laser power is carried out, if it is left for a long time, the pickup will deteriorate.

(4) Press the JOG knob. — LD SAVE $XX → LD 7.0mW $XX

(5) Turn the JOG knob, adjust so that reading of the laser power meter becomes 6.9 to 7.1mW. — LD 7.0mW $XX

(6) Press the JOG knob. — LD SAVE $XX → LD 0.9mW $XX

3 Check of laser power

(1) Press the EDIT/NO button . — LDPWR ADJUST

(2) Turns the JOG knob, and select the *LDPWR CHECK* mode. — LDPWR CHECK

(3) Press the JOG button . — LD 0.9mW $XX

(4) Checks that reading of laser power meter is 0.85mV to 0.91mW.

(5) Press the JOG button . — LD 7.0mW $XX

(6) Checks that reading of laser power meter is 6.9 mV to 7.1 mV.

(7) Read the value (**V**) of digital bolt meter.
Calculate laser current **(I)** from the value(**V**).
I (mA)**= V / 1**(ohm)
Check that the laser current is -10 to +10% of range of the display value of the pickup unit (**Fig-1**).

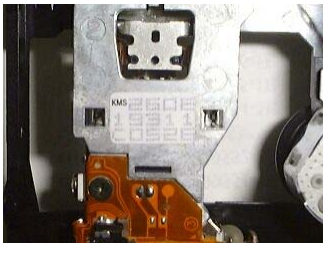


Fig-1

(8) Press the EDIT/NO button after check.

(9) Press the EJECT button and takes out the optical sensor — LDPWR CHECK

(10) Remove the digital volt meter from JIG.

ADJUSTMENT PROCEDURES-6

4 Adjustment of traverse (EF balance)

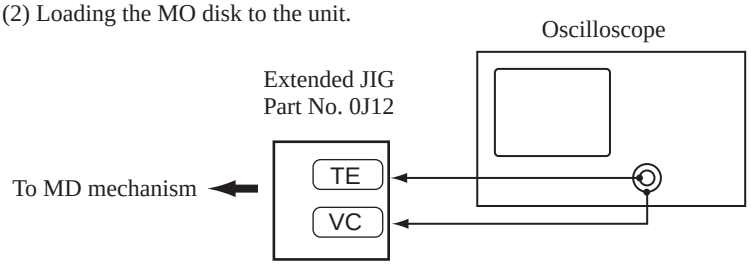
[Preparation]

(1) Connect oscilloscope to TE and VC on Extended JIG.

[NOTE]

Do not connect the VC to the GND of the unit.

(2) Loading the MO disk to the unit.



[Adjustment]

(1) Turns the JOG knob, and select for the display of FL tube to be set to *EFBAL ADJUST*.

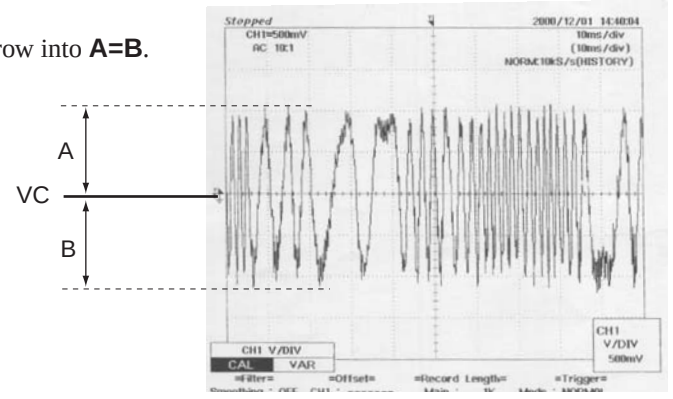
(2) Press the JOG button .

(3) Turn the JOG knob, adjust so that reading of the waveform currently observed with the oscilloscope should be as follows.

FL Display

EFBAL ADJUST
EFBAL XXMO-W
EFBAL XXMO-W

Adjusted so that it may grow into **A=B**.



(4) Press the JOG knob.

(5) Remove the oscilloscope and extended JIG from MD mechanism.

(6) Take out disk from the unit by pressing the EJECT button.

EFB =XXSAVE
↓
EFBAL MO-W
↓
EFBAL ADJUST

ADJUSTMENT PROCEDURES-7

5 Check of the error rate by the high reflectance disk

[Preparation]

(1) Loading of the high reflectance disk to the unit.

[Check]

(1) Turns the JOG knob and select the *CPLAY MODE*

(2) Press the JOG button .

(3) Checks that the value of C1 error rate is the value less than 20.
This value is usually less than 10.

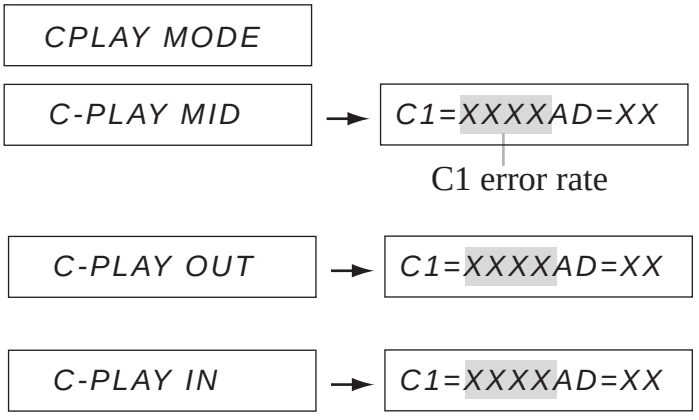
(4) Check the error rate in *OUT* (perimeter portion of disk) by pressing the JOG knob once again.

(5) Check the error rate in *IN* (inner circumference portion of disk) by pushing the JOG knob once again.

(6) Press the EDIT/NO button .

(7) Press the STOP button .

(8) Take out disk from the unit by pressing the EJECT button.



ADJUSTMENT PROCEDURES-8

6 Check of the error rate by the MO disk

[Preparation]

Make the continuation recording disk used for the check of the error rate.

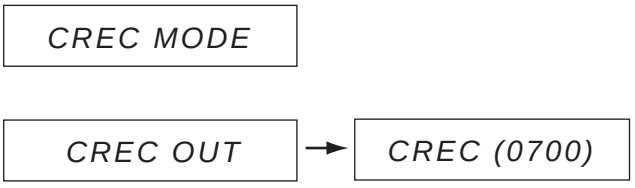
If the disk created by other sets is used, since the check with normal recording cannot be performed, please carry out self-recording reproduction with the same set.

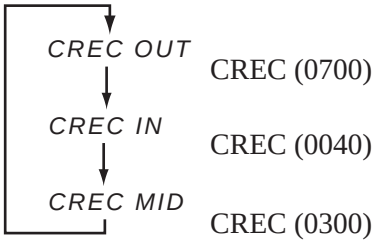
(1) Loading of the MO disk (standard recordable disk).

(2) Select the *CREC MODE* in the state in test MODE.

(3) Press the JOG knob so that the display may be CREC OUT.

FL Display





(4) Recording is started.
Continue the recording for required time at the CREC OUT, CREC IN and CREC MID mode.

(5) Press the STOP button after recording is completed.

[Check]

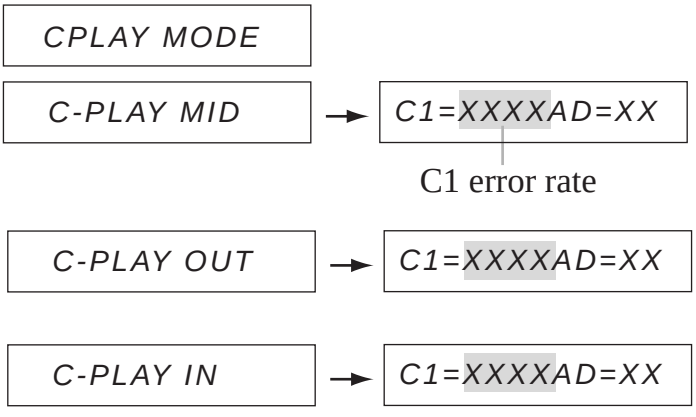
(1) Turns the JOG knob and select the *CPLAY MODE*.

(2) Press the JOG knob.

(3) Check that the value of C1 error rate is the value less than 50.
This value is usually less than 30.

(4) Check the error rate in OUT (perimeter portion of disk) by pressing the JOG knob once again.

(5) Check the error rate in IN (inner circumference portion of disk) by pressing the JOG knob once again.



(6) Press the EDIT/NO button .

(7) Press the STOP button .

(8) Take out disk from the unit by pressing the EJECT button.

[NOTES]

When an extremely large value comes out at an error rate, it may not be recorded normally.

Please check that recording of area which checks an error rate is performed with refer to "**Preparation**"

ADJUSTMENT PROCEDURES-9

7 Adjustment the focus bias

When an error rate is worse than the standard value, perform this work.

[Preparation]

(1) Loading the continuation recording disk to the unit.

[Adjustment]

(1) Turns the JOG knob and select the *CPLAY MODE*.

(2) Press the JOG knob.

`CPLAY MODE`

`C-PLAY MID` → `C1=XXXXAD=XX`

(3) Press the EDIT/NO button .

`CPLAY MODE`

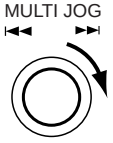
(4) Turns the JOG knob, and select the EBIAS ADJUST mode.

`FBIAS ADJUST`

(4) Press the JOG button .

(5) Turn clockwise the JOG knob, adjust so that C1 error rate becomes 200.

C1 error rate is not stabilized. Therefore, read average value.

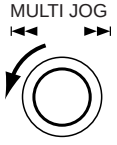


`XXXX/## a=$$` — The value of the focus bias in point A. / C1 error rate

(6) Press the JOG knob.

(7) Turn counterclockwise the JOG knob, adjust so that C1 error rate becomes 200.

C1 error rate is not stabilized. Therefore, read average value.



`XXXX/## b=$$` — The value of the focus bias in point B. / C1 error rate

(8) Press the JOG knob.

`XXXX/## c=$$` — The value of the focus bias in point C. / ADER / C1 error rate

(9) Checks the following contents.

Check that C1 error rate is value less than 50.

Check that ADER is 00.

(10) Press the JOG knob.

(11) Check the value of *&&*.

`XX-XX-XX(&&)`

Rework from (1), when *&&* is less than 20.

Progresses to the next step(12), more than 19

(12) Press the JOG knob.

(13) Press the STOP button .

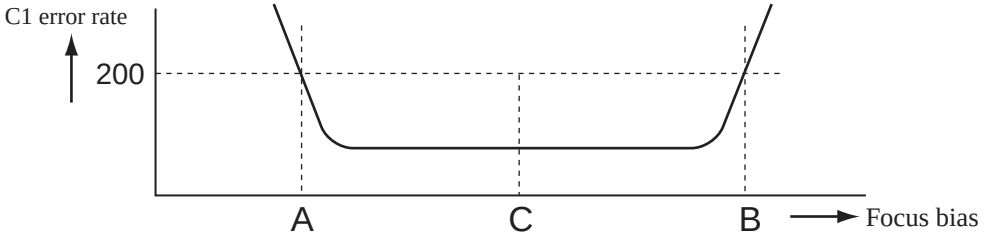
`FBIAS ADJUST`

(14) Take out disk from the unit by pressing the EJECT button.

[Explanation]

The relation between C1 error rate and focus bias is as follows.

In the structure to which the focus bias of point C is automatically set by adjusting the focus bias of point A and point B.



ADJUSTMENT PROCEDURES-10

8 Check of focus bias

When an error rate is worse than the standard value, perform this work.

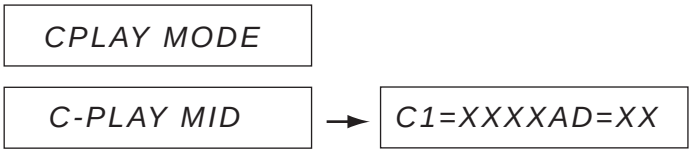
[Preparation]

(1) Loading of the continuation recording disk to the unit.

[Check]

(1) Turns the JOG knob, and select the *CPLAY MODE*.

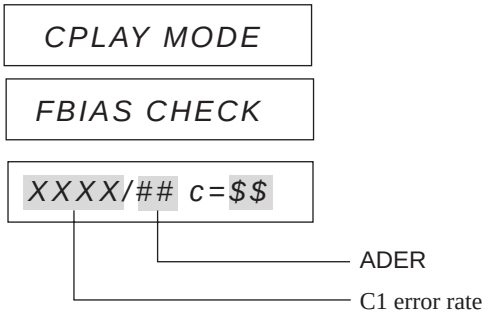
(2) Press the JOG knob.



(3) Press the EDIT/NO button .

(4) Turns the JOG knob, and select the *BIAS CHECK* mode.

(5) Press the JOG knob.



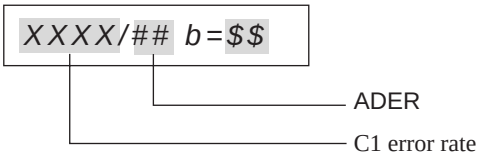
(6) Check the following contents.

Checks that C1 error rate is value smaller than 50.
Check that ADER is 00.

(7) Press the JOG button .

(8) Checks the following contents.

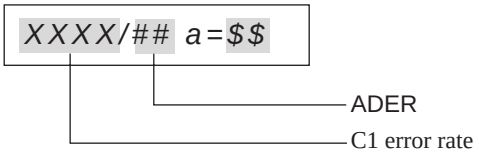
Checks that C1 error rate is value smaller than 220.
Check that ADER is 00.



(9) Press the JOG button .

(10) Checks the following contents.

Checks that C1 error rate is value smaller than 220.
Check that ADER is 00.



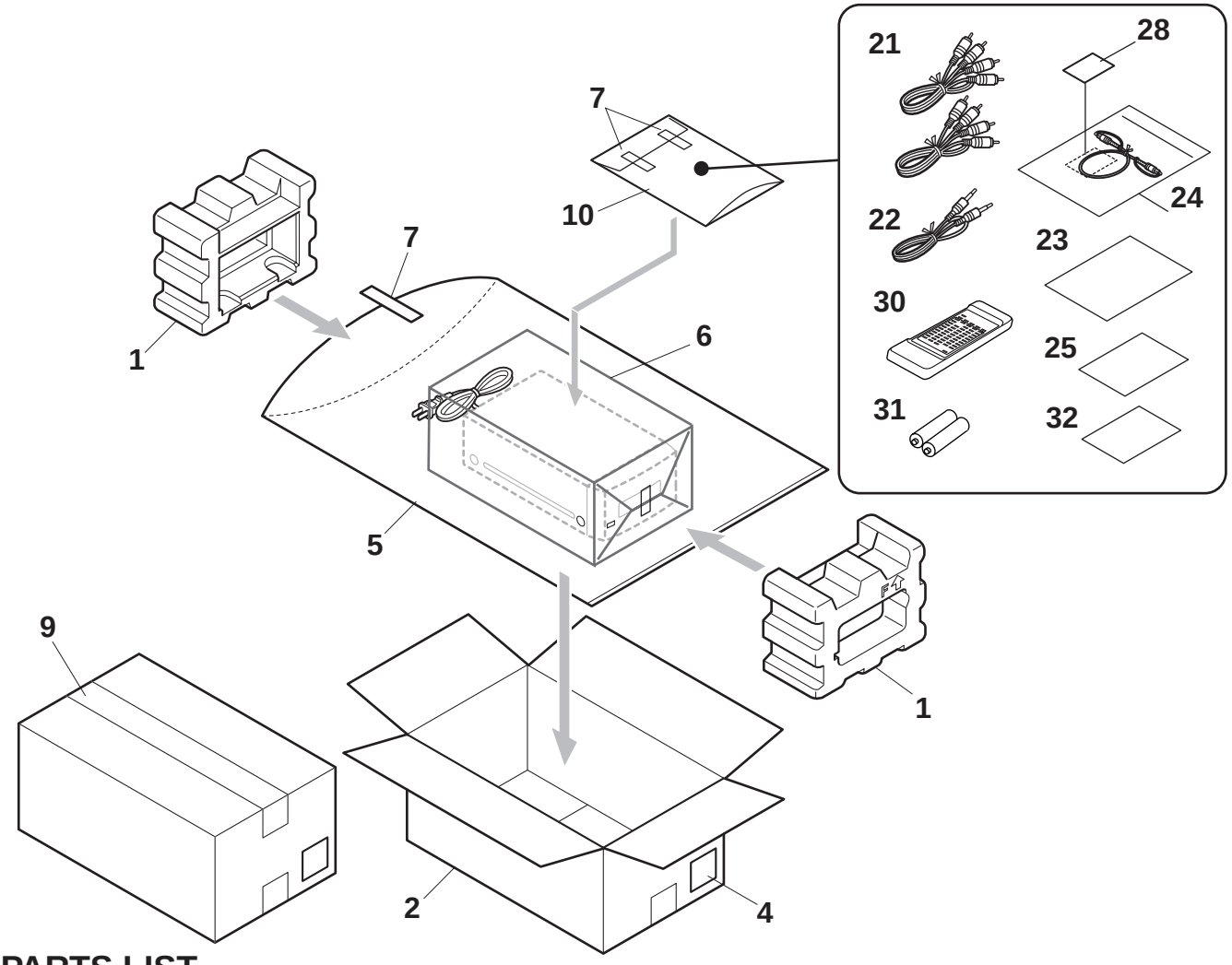
(11) Press the EDIT/NO button .

(12) Press the STOP button .

(13) Take out disk from the unit by pressing the EJECT button.

When it is an unusual numerical value, perform " **Adjustment the focus bias"** again. because adjustment may not be proper.

PACKING VIEW



PARTS LIST

REF NO.	PART NO.	DESCRIPTION	
✻1	29092023A	Pad AS	
	29092023-1A	Pad AS	
✻2	29053832	Carton <DT,GT>	MANUFACTURED IN MALAYSIA
	29053832-1	Carton <DT,GT>	MADE IN JAPAN
	29053833A	Carton <GR>	MANUFACTURED IN MALAYSIA
	29053833-1A	Carton <GR>	MADE IN JAPAN
✻4	29362967A	Label, EAN	MANUFACTURED IN MALAYSIA
	29362967-1A	Label, EAN	MADE IN JAPAN
5	29100123C	Poly bag (430 x 550)	
6	29095906	Sheet	
7	29110149	Tape cellophane (No.29)	
9	29110148	PP tape, W50 3M NO.371	
10	29100097-1A	Poly bag (350 x 250)	
21	2010396	Audio cord AS	
22	2010397	RI cord	
23	29343186	Instruction manual E	
23	29343202	Instruction manual CS <GR>	
24	2050072	NOP-1P50, Optical cord AS	
25	29343187	Instruction manual CT	
28	29361573	Label (PE-LD)	
30	24140475	RC-475MD, Remote controller	
31	3010054	Battery, UM-3	
32	29355360	Instruction sheet U3ECSCT (MD101A)	

NOTE:
<DT> : Taiwanese model only
<GT> : Asian model only
<GR> : Chinese model only

[Notes]
This model may be produced in the case where it is manufactured in Malaysia, and Japan.
About the parts which have the ✻ mark on REF NO., part numbers differ by the case of the Malaysia production, and the case of production of Japan.
When you exchange this part, check the manufacture place of the origin on the rear panel, and use the same parts.

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